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# Martha's Vineyard Commission

## DRI #352-M4 – MVRHS Athletic Fields
## MVC Staff Report – 2020-03-25 DRAFT

## 1 DESCRIPTION

**1.2 Applicant:** Matt D'Andrea, Martha's Vineyard Public Schools Superintendent

**1.3 Project Location:** Martha's Vineyard Regional High School, 11 Edgartown-Vineyard Haven Road, Oak Bluffs, MA 02557

**1.4 Proposal:** Construct a new 400-meter, eight-lane running track; one multi-purpose synthetic turf field, 1,000-seat grandstand with pressbox; sports lighting; 4,800-square-foot fieldhouse; track and field equipment storage shed; walkways and associated site improvements; and renovate one existing natural grass field.

**1.5 Zoning:** Residential (R3)

**1.6 Local Permits:** Oak Bluffs Planning Board and Zoning Board of Appeals special permits for sports lighting and site plan review; possible special permit from Oak Bluffs Planning Board for construction in Zone 2 (Water Resources Protection Overlay District); building permits for grandstands, sports lighting, scoreboard, field house and storage buildings; Oak Bluffs Board of Health permit for septic holding tank and sewer connection; MVC DRI permit

**1.7 Surrounding Land Uses:** R3 Residential

**1.8 Location:** The site is just east of a Water Resources Protection Overlay District, and is within both the Lagoon and Sengekontacket Pond watersheds. A portion along the north border is in the Island Roads District. Single-family developments abut the property to the west, and a strip of forested land abuts to the east. Other community and institutional buildings, including the YMCA and Martha's Vineyard Community Services, are located across Edgartown-Vineyard Haven Road. About 46 acres of the high school campus are used for athletic use.

**1.9 Project History:** The MVC first reviewed the Martha's Vineyard Regional High School in 1979, approving its plan for a 21,600-square-foot addition for 600 students (DRI 109). The high school returned for DRI 352 in 1992, with a proposed 81,000-square-foot addition that the MVC approved with conditions; and in 1995 for the addition of the running track with associated track-and-field areas and a fence (modification review DRI 352-M). In 2006–2007, the MV Sharks built a new baseball field on the high school campus, which should have been referred for a modification review but was not. In 2013, the Sharks added lighting to the baseball field and that project was later referred to the MVC as DRI 352-M2. The MVC voted not to accept the referral, since the lights were already in place. In June 2016, the MVC voted not to accept the referral of a proposal by Vineyard Baseball Inc. to construct a 28' x 10' bathroom building near the Sharks field.

Plans to renovate the high school playing fields have evolved since 2015, when MVRHS commissioned a study that highlighted the urgency of replacing its running track, and voted to move forward on a three-phase plan by the community group MV@Play. The plan involved upgrading all the playing facilities, beginning with a new track and synthetic field, stadium

seating for 500 people, sports lighting and storage facilities. MV@Play had proposed a public-private partnership with the school, and the upgrades were to be funded mostly by donations. MV@Play hired Gale Associates as the designer and general contractor. In response to public concern, the original proposal for the synthetic field was amended to specify a plant-based infill, rather than crumb rubber. MV@Play projected 2,339 events per year for the fields, accounting for both high school and community use. The school district committee signed a licensing agreement with MV@Play, and voted to support phase one of the project. The Chilmark and West Tisbury selectmen, along with MV@Play, later referred the project to the MVC.

Another community group, Vineyarders for Grass Fields, was established during that period and began raising money to support the improved maintenance of existing fields at the high school.

The MVC Land Use Planning Committee met with the high school in February 2016, and a public hearing was set to begin that April. Concerns focused mostly on the synthetic field, including the health and environmental safety of turf products and the long-term cost of maintenance and replacement. (The field surface was expected to be replaced every 10–13 years at a cost of about $500,000.) Other concerns focused on traffic, since the proposed lighting would allow for more evening games in the summer. Vineyarders for Grass Fields later presented the high school with an alternative plan based on natural grass maintenance for 17 school fields across the Island, and the MV@Play proposal (along with the MVC hearing) was put on hold. MV@Play offered to provide Vineyarders for Grass Fields with the plans developed by Gale Associates, but later learned that was not possible since Gale Associates owned the plans. Vineyarders for Grass fields was later renamed the Field Fund. The school adopted a 10-year grass fields policy for its playing fields, but a licensing agreement between the Field Fund and the high school fell apart when the two parties could not agree on the terms. As a short-term fix, the high school voted to repave the running track, which would allow for another 3–4 years of use. The Field Fund went on to develop grass maintenance programs for the other schools on the Vineyard.

In 2018, the high school decided to move forward on its own, hiring Daedalus Projects as a consultant and agreeing to consider both synthetic and natural turf fields at the school. Also in 2018, the school hired Huntress Associates, which presented a master plan with three options for renovating the athletic facilities. The plan recommended at least one synthetic field, and a grass maintenance program for the others. The high school committee voted in December 2018 to pursue “Option B,” with phase 1 now before the MVC. Island towns were given 45 days to hold special town meetings to approve the high school’s use of excess and deficiency (E and D) funds to develop construction plans to present to the MVC. Edgartown, Tisbury and Oak Bluffs decided not to hold special town meetings, in effect approving the expenditure, while West Tisbury and Aquinnah approved the spending and Chilmark voted against it.

In January 2020, the high school sent its plans to the Oak Bluffs Planning Board, which later referred the project to the MVC.

**1.10** **Project Summary:** The athletic campus currently has nine playing fields (one field with a 400-meter track, four multi-purpose fields, two baseball diamonds (including the MV Sharks field) and

*Figure 1: Existing fields and locations.*

two softball diamonds). (See Figure 1.) The track and field are in poor condition and cannot be used for matches. The multi-purpose field used for football games (located at the front of the site) includes a 500-seat grandstand, along with a pressbox, lighting, concession stand and other features, and the grass is in poor condition. The remaining grass surfaces suffer from varying levels of degradation, and much of the seating and access are not ADA compliant. Some of the fields also overlap.

Phase one of the athletic fields project includes a new track and 90,000-square foot synthetic field, a 1,000-seat grandstand, a pressbox, lighting and associated features, and a 4,800-square-foot fieldhouse with locker rooms, bathrooms, trainer's room, concessions, weight room, classroom and storage. The existing track and field will be renovated with a 70,000-square-foot natural grass, field and the track will be removed. (See Figure 2.) The proposed buildings are designed with a barn-like appearance and shingle siding.

The athletic fields master plan as a whole reorganizes the fields so that they do not overlap, and relocates the track and field from the rear to the front of the site. In later phases, the high school baseball field and the two softball fields would be moved to the southeast corner of the site, with the baseball field replacing about three acres of forested land.

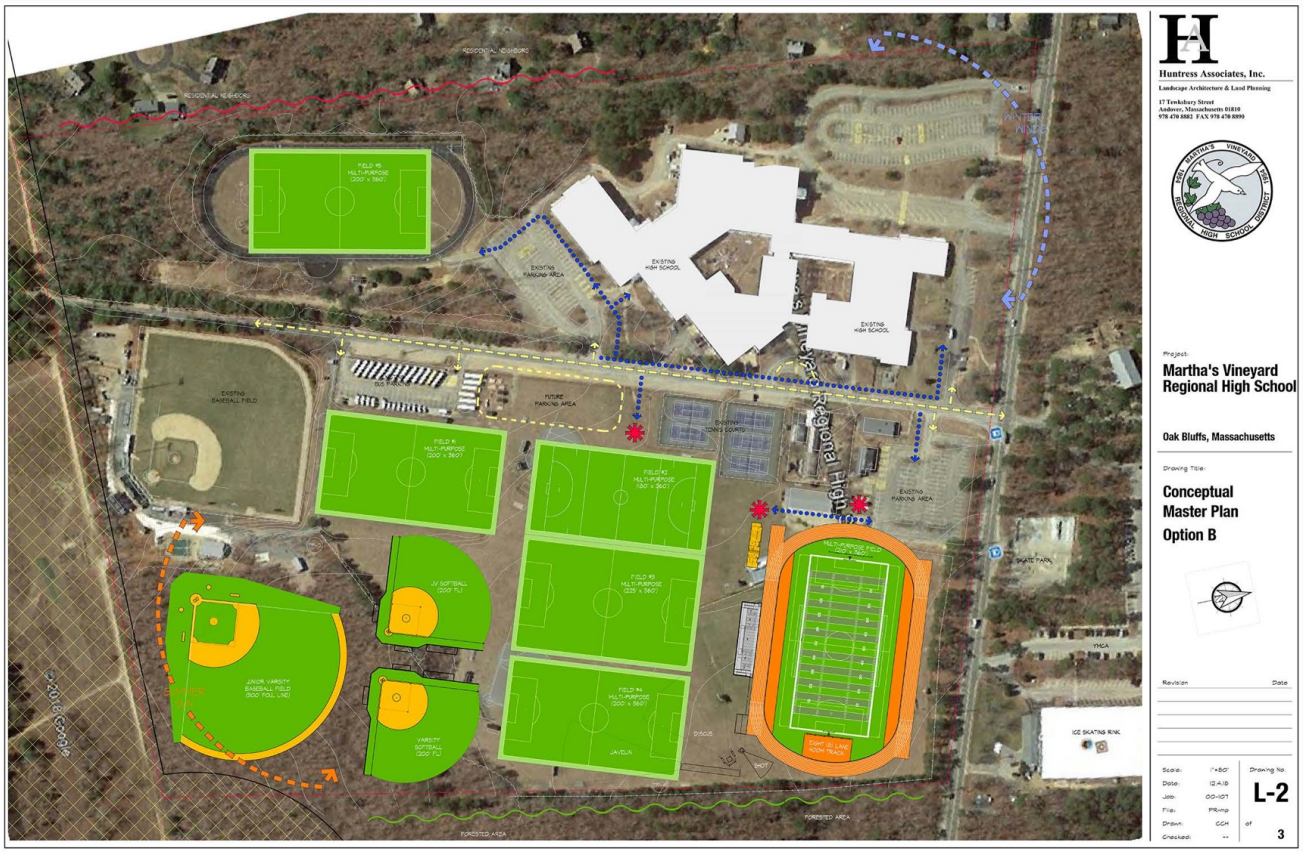


*Figure 2: Option B of Master Plan.*

Based on the high school's annual summary of athletic events, Huntress estimates that the current fields (excluding the baseball and softball diamonds) receive about 3,500 hours of use per year, or about 5,830 hours including MV Soccer United and the MV Adult Leagues. Under the higher scenario, each of the five playing fields currently receives an average of about 1,166 hours of use per year. Undertaking the master plan using only natural grass would reduce annual usage to 972 hours per field. Including one synthetic field would reduce the use of the remaining natural grass fields to 891 hours per year; two synthetic fields would reduce that figure to 770 hours per year, and three would reduce it to 568 hours per year, according to Huntress. The Sports Turf Managers Association (STMA) recommends an upper limit of 680–820 hours per year for grass fields. Huntress sets that figure at 680 for the Northeast, which has a shorter growing season, and recommends up to three synthetic fields for the overall high school project. (See Figure 3.)

Huntress recommends the following products for the synthetic field in phase one:

- Greenfields woven turf system – MX Elite (turf): Recyclable; 10-year warranty
- ACT Global woven turf system – Extreme Turf WX50 (turf): Recyclable; 10-year warranty
- Brock USA – Power Base YSR Resilient Pad (shock pad): Recyclable; 25-year warranty
- Brock USA – Brockfill (infill): Plant-based, sustainably harvested from pine trees in Georgia; does not require irrigation

The drainage system beneath the synthetic field would last 30–40 years.

| MVRHS - Existing Athletic Field Use Analysis | | | | | |
|---|---|---|---|---|---|
| **Plan Title** | **Annual Events** | **Hours/Event** | **Total Use Hours** | **Number of Fields** | **Annual Hours/Field** |
| **Existing Conditions** | **1,400** | **2.5** | **3500** | **5** | **700** |
| | | | | | |
| Master Plan - Option A - 100% Natural Grass | 1,400 | 2.5 | 3500 | 6 | **583** |
| Master Plan - Option B - 100% Natural Grass | 1,400 | 2.5 | 3500 | 6 | **583** |
| Master Plan - Option C - 100% Natural Grass | 1,400 | 2.5 | 3500 | 5 | **700** |
| | | | | | |
| **Master Plan Alternative - Use of Synthetic Turf** | | | | | |
| Master Plan - Option A or B - **One (1) Synthetic Turf Field** | 550 | 2.5 | 1375 | 1 | **1375** |
| Master Plan - Option A or B - Five (5) Natural Grass Fields | 850 | 2.5 | 2125 | 5 | **425** |
| | | | | | |
| Master Plan - Option A or B - **Two (2) Synthetic Turf Fields** | 1,100 | 2.5 | 2750 | 2 | **1375** |
| Master Plan - Option A or B - Four (4) Natural Grass Fields | 300 | 2.5 | 750 | 4 | **188** |
| | | | | | |
| ** Does not include 848 annual events associated with MV United, and 84 annual events associated with adult leagues. See proposed conditions use analysis for additional information.* | | | | | |

**Sports Turf Managers Association - Recommendation** **Well maintained natural grass fields can support between 680 - 820 hours of use per year.**

| MVRHS - Proposed Athletic Field Use Analysis | | | | | |
|---|---|---|---|---|---|
| **Plan Title** | **Annual Events** | **Hours/Event** | **Total Use Hours** | **Number of Fields** | **Annual Hours/Field** |
| **Existing Conditions** | **2,332** | **2.5** | **5830** | **5** | **1166** |
| | | | | | |
| Master Plan - Option A - 100% Natural Grass | 2,332 | 2.5 | 5830 | 6 | **972** |
| Master Plan - Option B - 100% Natural Grass | 2,332 | 2.5 | 5830 | 6 | **972** |
| Master Plan - Option C - 100% Natural Grass | 2,332 | 2.5 | 5830 | 5 | **1166** |
| | | | | | |
| **Master Plan Alternative - Use of Synthetic Turf** | | | | | |
| Master Plan - Option A or B - **One (1) Synthetic Turf Field** | 550 | 2.5 | 1375 | 1 | **1375** |
| Master Plan - Option A or B - Five (5) Natural Grass Fields | 1,782 | 2.5 | 4455 | 5 | **891** |
| | | | | | |
| Master Plan - Option A or B - **Two (2) Synthetic Turf Fields** | 1,100 | 2.5 | 2750 | 2 | **1375** |
| Master Plan - Option A or B - Four (4) Natural Grass Fields | 1,232 | 2.5 | 3080 | 4 | **770** |
| | | | | | |
| Master Plan - Option A or B - **Three (3) Synthetic Turf Fields** | 1,650 | 2.5 | 4125 | 3 | **1375** |
| Master Plan - Option A or B - Three (3) Natural Grass Fields | 682 | 2.5 | 1705 | 3 | **568** |
| | | | | | |

**Sports Turf Managers Association - Recommendation** **Well maintained natural grass fields can support between 680 - 820 hours of use per year.**

HUNTRESS *Sports* 15-Dec-18

*Figure 3: Existing and projected use of fields.*

There are currently no facilities in the US that recycle synthetic turf fields, although Huntress has stated that the companies Greenfields and Tencata plan to open a facility in the Netherlands in April, and another in Georgia in about two years. The final construction plans by Huntress will require the turf manufacturer to remove and recycle the turf carpet at the end of its life, the cost of which would be built into the initial bid.

## 2 ADMINISTRATIVE SUMMARY

**2.1 DRI Referral:** Oak Bluffs Planning Board

**2.2 DRI Trigger:** The plan triggers several DRI Checklist items, including 1.2 (Modification of a Previous DRI), 6.2 (Public Facilities), and 8.6 (DCPC; Island Road District)

**2.3 LUPC:**

**2.4 Site visits:**

**2.5 Public Hearing:**

## 3 PLANNING CONCERNS

**Maintenance and long-term costs:** Huntress recommends that the high school commit to a natural grass maintenance program, including annual funding, that sustains the grass fields for at least 20 years. To do so, it recommends that none of the grass fields exceed 680 hours of use per year. The company has submitted a draft annual maintenance plan for the grass fields, in the form of a proposed scope of work. The company expects to submit a maintenance plan for the synthetic field as well. Maintenance of the synthetic field would include grooming the surface about once a month with equipment that also picks up metal objects with a large magnet. Huntress has stated that sanitizers and other chemicals will not need to be applied as part of the turf maintenance program.

Huntress calculates that installing and maintaining a grass field would cost about $525,542 over the first 10 years, and $400,840 over the second 10 years ($926,382 total); installing and maintaining a synthetic field would cost about $1,059,542 over the first 10 years, and $616,292 over the second 10 years ($1,675,834 total), which includes the cost of removing and replacing the carpet at the end of its life. At the same time, Huntress estimates that the annual cost per hour of use in the first 10 years would be $124 for a grass field, versus $77 for a synthetic field. The cost-per-hour estimates for the second 10 years are $94 and $45, respectively. The total annual maintenance costs including products and labor, according to Huntress, would be $25,085 for a grass field and $7,454 for a synthetic field.

**3.1 Fire safety:** The Brockfill infill is made of wood pellets but does not contain chemicals that could combust.

**3.2 Noise:** Some abutters have expressed concern about noise during games in the early morning and late afternoon, and during practice at the track and field.

**3.3 Traffic:** The site is accessed primarily from Edgartown-Vineyard Haven Road, which connects to Sanderson Road at the high school. The intersection with Sanderson Road is opposite the driveway to Martha's Vineyard Community Services on Edgartown-Vineyard Haven Road. The sight lines are adequate from Sanderson Road at the intersection. The estimated total daily trip generation for the high school, based on the Institute of Transportation Engineers (ITE) trip generation rate for a high school with 600 students is 1,026 daily trips, with 258 in the AM peak hour and 78 in the PM peak hour. ITE does not have a football field trip generation rate, but there is a trip rate of 71.33 per field for a soccer complex.

**3.4 Parking:** The plans reorganize the parking area off Sanderson Ave. to allow busses to pull in and out. Twelve of the current parking spots are redistributed, but the total number is the same.

**3.5 Accessibility:** The new fields and facilities will be ADA accessible.

**3.6 Usage:** The project is not expected to lead to an increase in field usage. However, the seating capacity at the primary game field will increase from 500 to 1,000 seats.

## 4 ENVIRONMENT

**4.1 Forest:** The high school property includes state-classified Prime Forest and BioMap2 Core Habitat at its southern end, and abuts the Manuel F. Correllus State Forest to the south.

**4.2 Habitat:** The area abuts NHESP habitat with some in the project area.

**4.3** **Landscaping:** The applicant has submitted a preliminary landscape plan.

**4.4** **Open Space:** The addition of the new buildings will reduce the total amount of open space.

**4.5** **Lighting:** The new track and field will include sports lighting (two poles on each side), and the four existing poles will be removed. The new poles closest to Edgartown-Vineyard Haven Road will be 51 feet from the property line. Huntress has submitted illumination summaries showing the expected intensity and dissipation of light at the field.

**4.6** **Energy/Sustainability:**

**4.7** **Waste Management:** The high school property is connected to the town sewer, but the Oak Bluffs Wastewater Facility is at capacity. A septic system is not allowed since the project lies within the Sengekontacket Pond watershed. Instead, the plan calls for a series of holding tanks that can be pumped out regularly, in addition to a dry sewer line that can be connected later on if the town allows it.

**4.8** **Water Resources:** Concerns about groundwater and runoff have focused on the potential effects on drinking water and coastal pond ecosystems. The MVC will engage a third-party toxicologist to evaluate the potential effects on human health and the environment.

**4.9** **Soils and Groundwater:** The soil type is Riverhead sandy loam with 0-3% slopes. This type of soil is very deep, and well drained. The water table on the property is likely perched at an elevation of 18–25 feet. Groundwater flow on the site is toward the east-southeast.

**4.10** **Nitrogen:** The site is in the Lagoon and Sengekontacket pond watersheds. The status of both watersheds is impaired. The current nitrogen loads exceed the critical nitrogen-loading limits and eelgrass coverage in both ponds is decreasing. The site is also in the DEP Zone II area of contribution. The property is connected to the Oak Bluffs Wastewater Facility, but unable to immediately tie in (see section 4.7 above).

**4.11** **Storm water:** Stormwater currently flows from the parking area to catch basins that connect to infiltration drywells, and from the football field area south toward the other fields. The project will result in about 79,500 square feet of new impervious surfaces, and include a series of stone trenches, catch basins and underground filtration chambers to manage additional stormwater. The applicant has submitted a stormwater report by Marchionda and Associates that includes plans for pre- and post-development, peak flow calculations and operations and maintenance. The new track and field, and the renovated grass field, will also include drainage systems.

## 6 ECONOMIC IMPACT

**6.1** There are currently _____ full time/ part time employees. With the proposal there will be _____ full time/part time employees.

**6.2** The potential impact on schools is likely to be _____.

**6.3** The potential impact on police and fire departments is _____.

## 7 SCENIC VALUES

**7.1** **Streetscape:** The project site is visible from Edgartown-Vineyard Haven Road, but partly obscured by trees. The closest proposed sports lighting would stand 51 feet from the property line along Edgartown-Vineyard Haven Road.

**7.2** **Building Massing:** The proposed fieldhouse is 4,800 square feet with lower and ground levels, and a height of 22’ 4” at the ridge. The ground floor dimensions are 26’ by 117.4’.

**7.3** **Architectural Detailing:** See plans.

## 8 LOCAL IMPACT/ABUTTERS

See sections on noise, lighting and traffic above.

## 9 CORRESPONDENCE

**9.1 Town Officials:**

**9.2 Island Organizations:**

**9.3 Public:** Seventy-two emails and letters have been received as of March 25, 2020, with 55 in support of the project, 14 opposed, and three expressing concern. A separate hardcopy packet with all letters will be compiled for the LUPC.