Martha's Vineyard Regional High School

Oak Bluffs, Massachusetts

TRACK INVESTIGATION SUMMARY REPORT

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SUMMARY REPORT

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Prepared for:

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Oak Bluffs, Massachusetts

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TABLE OF CONTENTS

I. INTRODUCTION

The outdoor synthetic running track at Martha's Vineyard Regional High School, Oak Bluffs is a six lane, 400 Meter track facility, including throwing areas and a natural grass field in the center of the facility. MVRHS is located to the north of the facility; adjacent residences are located to the west of the track. Other athletic fields are located to the east of the facility.

Records indicate the existing synthetic running track surface was constructed in 1995, with an overlay and resurface program in 2005 of a latex 'Tracklite' product. The track pavement was repaired and a structural spray resurfacing was performed in 2011.

The current track re-surfacing condition has reached its end of life and a full reconstruction of the track is now recommended. Several features of the existing track venue [high jump and long jump] are deemed inadequate from a program /operations perspective and require improvements/expansion.

MVRHS is member of the Eastern Athletic Conference. The track facility supports the high school physical education programs, men's and women's varsity track programs, significant community use, and other special events. In addition, the track facility hosts invitational Cross Country events, involving 400-500 runners. The desire is to host conference meets with the reconstructed facility.

The purpose of this report is to update the recommended improvements and cost for improving the existing track facility, including the interior natural grass field.

II. EXISTING CONDITIONS

A. Track Structure and General Improvements

The track has a north-south orientation, and is located to the south of the athletic parking area. Although original track construction drawings are not available, the track geometry appears to be a 104' radius, producing an equal quadrant track.

Photos 1 and 2: Access from high school. Limit of pavement and track at the north end of the track.

The previous conversion to the 400 meter length is located at the south end of the track. Several areas of running lanes 1 and 6 are in close proximity [0-3”] of the edge of the pavement and track surfacing. Along the north turn one, the fence is located approximately 2’ from the outside lane line.

The track has one single chute, located in the northwest corner of the facility. This location requires the finish line and all sprint events to be run on the west straight, away from parking and general access.

Photo 3: Chute at northwest end of track

The semi-circular high jump is located at the east side of the track, immediately off the straight. The overall approach landing area is desired to be larger if possible.

Long triple jump pit is oriented in a north south direction, located on the west side of the track. Jump pits are located at both ends of the runway. The location of the runway and jump pits [approximately 20’ into the field area] compromises the effective playing width of the athletic field.

Photos 4 and 5: Long and Triple Jump Landing pit and location along west straight

Discus throwing area is located at the south end of the track, throwing onto the field. Shot landing area is also located at the south end of the facility. Javelin events are conducted across the street; this location is not a meet management problem, according to the Track Coach.

Photo 6: Discus throwing area

B. Track Pavement/Surfacing Conditions

The track surfacing is again at the end of its useful life and the pavement below exhibits cracking and other age related issues. The pavement section appears to include a minimal amount of stone base material [2-4"], an initial base course of bituminous concrete [1½" – 2" thickness], with a topping course of bituminous pavement [1 – 1½" thickness]. The bituminous pavement has been surfaced with a rubberized granulated track material, currently approximately ¼ -½" in thickness. Runners are now running over uneven and inconsistent surfaces.

Photos 7 and 8: Track Pavement Edge Condition and Section

In addition, there are numerous cracks and pavement deterioration present in many portions of the bituminous pavement. A concentration of these cracks is located in the north and east sections of the track oval. The majority of cracks in the pavement are longitudinal, running parallel to lane lines; suggesting a reflection of paving operations. However, there are some cracks located in a transverse, 'headseam' orientation. While some of the cracks appear to be present only in the top course of the bituminous concrete; other cracks are full depth pavement failures [both top and base course of bituminous].

Photos 9 - 12: Track Pavement Cracks / Failures

There are no perimeter curbs at the limit of the track surface, contributing to an existing edge condition that is unraveling. This condition is occurring in many sections of the track, and is particularly apparent at the south Turn One, and the east high jump area.

Photos 13 and 14: Typical Track Pavement Edge Conditions

Photo 15: General Track Pavement Condition, illustrating bare / inconsistent running surfaces

C. Utilities


Photos 16 and 17: Erosion off the athletic parking area towards the track

There are three drywell catch basin structures located on each side of the interior field that are draining both the track surface and the natural grass playing field. There is no continuous perimeter trench drain dedicated for the track surface drainage.

While there is an irrigation system located in the interior field, it is supplied with only a 1" water supply, producing inadequate pressure and volumes for effective turf irrigation of the athletic field. An improved water supply is present at the baseball field across the street.

There are no permanent sanitary facilities located in the track precinct. Portable facilities are provided.

D. Miscellaneous:

Access and parking capacity is limited to the existing athletic parking area at the high school. There is no paved accessible path to the track precinct. Lack of stable access drive pavement material contributes to sand and debris on the track, which accelerates the deterioration of the synthetic track surface.

Photos 18 - 19: Unprotected vehicular access and primary entry to track facility from High School

Ad hoc informal parking occurs adjacent to the storage facilities. The track facility is currently unprotected from vehicles from the street and from all-terrain vehicles from adjacent residential neighborhoods.

Fencing [4' height] is located only at the north end of the facility, where it is located within 3' of the outside of the track. Fencing condition is fair.

Storage of equipment occurs on the east side of the track facility in two wooden structures. Bleachers/seating is limited to one freestanding unit adjacent to the high jump.

Photo 20: Storage Facilities

E. Athletic Field:

Overall, the condition of the interior playing field is extremely poor, with significant areas of the field that are bare with no turf. It was reported that areas where the turf is in somewhat better condition is where additional topsoil was imported. Little or no topsoil is present in the center portion of the field. Lack of functioning and effective irrigation system further contributes to the poor condition of the field.

There is an excessive, approximately 2' crown to the center of the field from the track pavement. As previously noted, the long and triple jump runway limits the effective playing width of the field

Photo 21: Overall condition of the interior grass playing field

III. TRACK FACILITY IMPROVEMENT OPTIONS

The track has reached the end of its useful life and a full depth reconstruction is recommended.

A. Full Track Reconstruction Program

CHA Sports recommendation is to completely remove and reconstruct the entire running track, providing MVRHS with a new track facility. Work would include the following steps:

-Remove existing track surfacing material.
-Mill & Pulverize all existing bituminous pavements, incorporating the pulverized material with the existing aggregate base material.
-Install perimeter curb on track and continuous trench drain on the interior edge of the track.
-Install drywell structures within field to accept drainage from trench drains.
-Construct new Paved and surfaced jumping runways and high jump areas outside of the field at southeast side of the track.
-Expand high jump area.
-Pave new track surface, including relocation of the chute to the east side of the track.
-Apply new polyurethane based, paved mat structural spray track surface to entire running surface and jump runways.

This approach fully reconstructs the track, providing additional pavement base aggregate material and new bituminous pavement to more fully and properly receive the new track surface.

In addition, the reconstructed jump runway outside of the track allows for the expansion of the interior field for multisport play. The complete reconstruction of the track would allow the relocation of the chute from the west to the east side of the track, providing improved access and viewing for spectators. Also, the expansion of the sprint lanes from 6 to 8 lanes could be accomplished at this time.

Estimated Cost: $750,000. - $850,000.

B. Other Facility Improvement Options

1. Access
Code mandated access to the facility should be provided, including construction of a paved maintenance access and drive from the north parking area to the track and the existing storage structures. In addition to providing proper access, a paved drive will assist in keeping sediment and debris off of the track surface, and will assist in the construction of the drainage swale to the east structure.

Estimated Cost: $15,500.

2. Perimeter Fencing and Vehicular Protection
Gates and fencing should be provided to protect the track from unauthorized use and vehicles. Fencing immediately adjacent to the track should be held a minimum of 1 meter away from the outside running lane. Additional fencing or guard rails should be considered along the track west straightaway, south turn, and along the utility corridor to protect vehicles, bikes, etc. from entering the facility. Fencing systems should be designed to permit ongoing general community use. Fencing priced is 42" high, 9 gage, black vinyl coated fence.

Estimated Cost: $60,000.

3. Parking/Storage
Additional support parking area [approximately 12-15 vehicles] is recommended along the east side of the track to improve maintenance access and handicap parking for the venue. Additional storage facilities could be located immediately adjacent to this new parking area.

Estimated Cost: $32,500.

4. Utilities
Utility improvements to the track facility, including convenience electric service for audio systems should be considered.

Estimated Cost: $10,000.

5. Exterior concrete apron
A continuous concrete apron 4' wide from the outside late to the perimeter fence will eliminate mowing the 3' wide strip in between the track and fence and will provide a mow strip under the fence.

Estimated cost: $48,000

E. Field Reconstruction Program

Currently, the existing natural grass athletic field is in extremely poor condition, including significant bare areas, high broadleaf weed content, and shallow root depth. Primary causes appear to be a lack of adequate irrigation system capacity and shallow depth of topsoil.

The existing 1" irrigation supply to the field from the north parking area should be abandoned, and a new water supply should be constructed from the varsity baseball field water supply well. Extension of the water service from this area to the track will provide improved and adequate irrigation to the field. Irrigation controls could be located in the storage facilities along the east straightaway.

The existing field should be regraded to reduce the existing crown on the field to approximately 1.25%. As part of the regrading effort, additional borrow topsoil

[loamy sand] should be provided to ensure a minimum of 6"–8" depth of topsoil in all athletic field areas. As part of this field reconstruction, the relocation and construction of a new concrete long jump runway/pit outside of the turf field is recommended to permit wider field dimensions and more multi-sport capability of the field.

The field should be reseeded or sodded, with a blend of hybrid fescue/rye/bluegrass to support athletic events. If the field is seeded the field will need to be allowed to develop for a minimum of two full growing seasons before scheduling any play on the field. If the field is sodded in the early fall it will be ready for use the following spring

Estimated Cost seeded option:	$175,000 – $200,000
Sodded Option:	$200,000 – $225,000

IV. CONCLUSION / RECOMMENDATIONS

Three of the highest priorities to the facility's current condition are addressing the current track conditions, providing the required paved accessible paths to the track facility, and improving the condition of the playing field. It is our recommendation that these three improvements be addressed immediately.

Full reconstruction of the track, field and surrounds with construction of the perimeter curbs, fencing and access improvements will bring the venue to new condition and expand the use/flexibility of the venue.