

MEMORANDUM

TO: Zoning Board of Appeals

FROM: Brandon Kunkel, Team Leader

DATE: February 26, 2019

SUBJECT: Improvements to Loker Conservation and Recreation Area
By-Law 198-606.2 Compliance

The Town of Wayland and its Recreation Department, like many communities in the Commonwealth of Massachusetts, is currently faced with a deficit of rectangular shaped, multi-use athletic fields and is striving to meet the current and future demands and needs of the Town's sports and recreational programs. As such, Weston & Sampson, in collaboration with the Town of Wayland, is working toward the installation of a new synthetic turf, multipurpose rectangular field within the designated recreational use zone of the Loker Conservation and Recreation Area (the Site) located at 410 Commonwealth Road, to benefit and support the recreational programs. The proposed improvements to the parcel will provide the Town of Wayland's Recreation Department with a new 195 x 300 foot synthetic turf multi-purpose sports and recreation field with lighting and a 62 space parking lot with pedestrian scale lighting to allow for expanded field use during evening hours.

In accordance with Town of Wayland's Planning Board procedures and the Zoning Board of Appeals, Weston & Sampson has identified how the Site complies with the standards and criteria set forth in By-Law 198-501.2, Signs and Exterior Lighting and 198-606.2.1 through 606.2.10, Site Plan Approval as described below.

By Law 198-501.2, Signs and Exterior Lighting

There are four total sports light fixtures being proposed to provide continuous illumination and include shields to completely cut off and diffuse glare beyond that of the property line, including the Commonwealth Road and Rice Road rights-of-way and adjacent abutters. The sport light fixtures are a Total Light Control (TLC) LED system designed by the manufacturer specific to the Loker property. TLC allows for precise control of the optics and allows a high percentage of the light being placed directly onto the field envelope and significantly cut off any impact to the surrounding area beyond the field itself.

A photometric diagram and glare study have been included for the sport light fixtures herein, and to the Planning Board and Zoning Board of Appeals on January 22, 2019 for your reference. You will note, that the photometric indicate a minimal light spill to the greatest extent possible and 0.0-foot candles and no glare casting outside of the property limits. The software used to generate the photometric plan does not account for the dense forest vegetation surrounding the Loker property and we believe this further reduces the potential for seeing the lights when in use. The project will also include 10 total pedestrian walkway, parking lot and roadway fixtures that will provide safety lighting beyond the field footprint. The proposed light fixtures are approximately 20-foot height.

The proponent is seeking a special permit form the Zoning Board of Appeals under provision 198-203 of the Town of Wayland By-laws for the sport light fixtures.

By-law 198-606.21-606.2.10, Site Plan Approval:

Standard (1): Integration into the existing terrain and surrounding landscape.

A. Minimize the use of wetlands, steep slopes, floodplains and hilltops.

Making use of and optimizing existing topographic constraints and elevation changes throughout the designated recreational zone, the multi-purpose field and parking lot are nestled within the existing site to the greatest extent possible. Attempts have been made to minimize land disturbance and tree removal without impacting wetlands and prevailing steep slopes. The field is located atop an existing knoll on a north/south orientation that allows the field to take advantage of the existing, mostly flat lawn area, that was previously the location of a DOW Company building. The orientation is also optimal for rectangular field sports as it relates to solar glare. The parking lot is located downhill from the field in an area that has previously served as a parking area. While the field is located atop the knoll, it is not advantageous to significantly cut the elevation of the hill as geotechnical findings have confirmed the presence of ledge located at a variety of depths throughout the field limits. Ledge removal would have a negative impact on the project cost and feasibility. In addition, the removal or cutting of the existing hill would substantially increase tree removal beyond beyond the extent needed to construct the field. There are locations throughout the field footprint that will require imported fill material to raise the elevation of the side slopes. In field perimeter locations where it is not feasible to transition to existing elevations without significantly impacting adjacent natural features, including trees, wetlands and designated conservation land, segmental block walls shall be placed to minimize land disturbance and meet existing elevations. This strategy (use of block walls) reduces the extent of work within 100-foot buffer zone and allows the project to remain outside the limits of the 30' No Disturbance Zone.

B. Preserve natural and historic artifacts

The orientation of the field and parking lot in combination with the proposed design elevations do not impact the known historically sensitive locations throughout the Site. A site plan overlay was generated to show the relationship of site improvements to known or expected artifact locations and this confirmed that there are no impacts. The site plan overlay was submitted to the Planning Board on January 18, 2019. The Town has agreed to provide an Archeologist and Historical Monitor during construction.

C. Maximize the retention of open space.

The compact footprint of both the multi-purpose field and parking lot, in addition to making use of the already developed driveways that exist on site today, minimize the disturbance of open space beyond the footprint of the field and parking lot. It should also be noted that the field will continue to serve as open space from a recreation perspective and the parking area has been developed within areas that were never restored to a naturalized condition following removal of the Dow Chemical building. The proposed parking lot will also serve the greater Town of Wayland community and provide parking for conservation land and trail users.

D. Preserve scenic views

The nestling of the field and parking lot into the natural topography as previously noted, allows for the substantial, well established forest buffer along Commonwealth Road and Rice Road to remain in place as it is today. During the anticipated high use months by recreational programs, typically April through October, the forest surround will provide a thickly vegetated screen to adjacent properties and roads and it is not anticipated that the views will be altered dramatically from the perimeter of the property. Also, many might suggest that interior views will be improved through the removal of invasive vegetation and former Dow Chemical facility remnants and with the planting of considerable new native vegetation.

E. Minimize tree, vegetation and soil removal, blasting and grade change

While a substantial quantity of trees is anticipated to be removed within the project area, every effort was made to minimize tree removal beyond the envelope of work by using segmental block retaining walls and 3:1 slopes that allow for short transitions back to existing elevations. Only 14 total trees scheduled to be removed as part of the site demolition and clearing are greater than 24-inch diameter breast height (dbh).

F. Screen objectionable features from adjacent properties and roadways

As noted in item D above, there are significant and well-established trees and thick understory vegetation buffer that is to remain in place between Commonwealth Road and Rice Road and the designated conservation land. There are four light poles associated with the multi-purpose field that will have fixtured mounted at a 66-foot height above finished grade. We believe that the mature forest, dense understory vegetation and the upward angle of any view corridor from Commonwealth Road, Rice Road and adjacent abutters reduces the potential of a pole to be visually intrusive with glimpses of them available from limited locations during late spring, summer and early fall seasons. In seasons where vegetation may not be as prominent, such as late fall and the winter months, the use of the fields would be reduced or stopped completely given the anticipated programming of the field. The project has made every effort to screen the poles and fixtures from public view and takes advantage of the mature tree buffer that surrounds the field.

Standard (2): Adequate water supply and sewer system.

The proposed project improvements do not require water or sewer service. Portable restroom facilities will be provided on a seasonal schedule by the Recreation Department and serviced through an outside vendor contract, as is done for all recreation playing fields.

Standard (3): Pollution prevention of surface water, groundwater and minimize erosion and sedimentation. Maximize groundwater recharge and prevent any increase in the rate and volume of runoff.

The stormwater design calls for the collection and recharge of groundwater within the limits of the synthetic turf multipurpose field. The field design includes a robust subsurface network of lateral drains, collector pipes and drainage stone. The stone and pipes serve as storage and overflow relief of rainwater during large storm events and tie into a subsurface chamber infiltration system downstream, located below the parking lot. The parking lot utilizes deep sump catch basins to collect and treat stormwater runoff and discharge into the chambers. The chambers will store and mitigate the release of peak flow and stormwater velocity at the existing downstream outfall located at East Pond and West Pond adjacent to Commonwealth Road. Throughout construction, industry standards for erosion and sediment control shall be implemented and maintained by the contractor. The stormwater design for Loker was vetted by an independent third party, whom was engaged by the Town of Wayland's Conservation Commission in the Fall of 2018, as part of the Massachusetts Wetland Protection Act's Notice of Intent application process.

As previously noted, there is the potential for substantial ledge to be encountered in portions of the field and throughout other portions of the site. As such, while the intention is to infiltrate as much stormwater as possible, we believe it is best practice to include the robust network of lateral and collector pipes below the field combined with the subsurface chamber system to protect proposed and existing site features and facilities and to mitigate peak discharge and flow during large storm events as identified in the stormwater design report.

Standard (4): Minimize demands placed on Town services and infrastructure.

The project program does not require sanitary sewer or water services and therefore will not place a demand on the Town's infrastructure. The stormwater design meets the Massachusetts Department of Environmental Protection's guidelines and does connect into the Town's stormwater infrastructure of pipes and outfalls to the existing wetlands located at East Pond and West Pond following treatment. New electrical service is being provided. The power requirements are limited to the field and parking lot light fixtures and this service is being provided by a private utility, not the Town of Wayland. The field user fees will offset the electricity used and not Town of Wayland tax dollars. Highly efficient LED are to be used requiring less energy to operate. The new Loker Conservation and Recreation Area field will also alleviate considerable use demands currently placed on other Recreation Department and Town assets because of the current multi-use field deficit.

Standard (5): Provide safe vehicular and pedestrian movement within the site and adjacent ways.

Within the project limits, a pedestrian sidewalk connection from the parking lot to the field is included within the design. The sidewalk will meet ADA and MAAB requirements with cross slopes no greater than 2% and less than 5% as it traverses the slope from the parking to the field. A pedestrian drop-off zone and stairway are included at the parking lot and this provides a direct and convenient route to the field for users and visitors.

As there is not an existing network of sidewalks at Commonwealth Road or Rice Road, and existing wetland boundaries flank the existing entrance drive, it was deemed ineffective to provide a sidewalk from Commonwealth Road to the parking lot and field. Taking into consideration the traffic demands on Commonwealth Road and the geographic location of the

site itself within the Town, it is unlikely that pedestrians would travel to the site and most users are expected to arrive by vehicle.

A traffic study was performed by Weston & Sampson and vetted by a third-party consultant retained by the Planning Board in December of 2018. As the existing vehicular access to Loker is to remain in place at Commonwealth Road, the projected vehicle trip increase to the site will have negligible impacts to Commonwealth Road and the intersection at Rice Road. The traffic analysis does identify measures that the Town might separately (from this project) consider deploying to improve the overall traffic rating along Commonwealth Road.

Standard (6): Buildings, structures and landscaping shall be in harmony with the prevailing character and scale of the zoning district.

The project does not include a building or structure. The landscaping pallet includes a mix of native deciduous trees, shrubs and a New England conservation ground surface seed mix. The conservation seed mix is hardy and tailored to provide erosion control and wildlife habitat value. The shrubs were selected for their wildlife value also as they will produce small fruits and seeds throughout the year and support the wildlife within and near to the project site and larger parcel.

Standard (7): Electric, telephone, cable television and other utilities on the site to be placed underground.

All infrastructure for the electrical utility will be placed below ground and not impact views or aesthetics of the natural surroundings. Please note, as part of providing power to the site, one new utility pole and mounted transformer will be located at Commonwealth Road and the existing access driveway. The electric power will be “dropped” into the ground at that utility pole and then traverse to the project area to support pedestrian and field sports lighting systems. No other utilities are included within the scope of the project.

Standard (8): Storage areas, machinery, service areas, truck loading areas, utility buildings and structure to be setback and or screened to the extent feasible.

There are no storage buildings or service areas included within the project. The seasonal restrooms will be screened on three sides by an 8-foot height solid wood slat fence. The project does include an open-air field equipment storage component, to stow such things as soccer goals and other sports related equipment. This is located approximately 60-feet away from the Rice Road right-of-way. The 50-foot wide, heavily wooded, conservation easement that separates the project area from Rice Road will screen the storage area from view.

Standard (9): Minimize shadow cast on adjacent properties in residential zoning districts.

As the project does not include any structures it is not anticipated that any shadow cast would be generated onto adjacent properties. The nearest residential abutter located on Thompson Road is approximately 365-feet from the limits of the multi-purpose field footprint within the site.

Standard (10): No unreasonable glare from lighting onto roads and other ways, to the night sky or onto adjacent properties in residential zoning districts.

As noted previously, A photometric diagram and glare study were provided for the sport light fixtures to the Planning Board and Zoning Board of Appeals on January 22, 2019. You may note, that the light fixtures being proposed are Total Light Control (TLC) fixtures and include cut off shields to minimize light spill to the greatest extent possible. The photometric plans indicate 0.0-foot candles and no glare casting outside of the property limits. The software used to generate the photometric plan does not account for the dense forest vegetation surrounding the Loker property and we believe this further reduces the potential for seeing the lights when in use.

Project proponents hope that Zoning Board of Appeals members will concur with the design approaches to this project. We look forward to presenting the project to you on March 26, 2019 and engaging in a productive conversation about the merits and benefits of this project for the Town and its residents.

Please forward any questions or comments in advance of the hearing date, so that we might respond accordingly.

Sincerely,

A handwritten signature in black ink, appearing to read "Brandon Kunkel". The signature is fluid and cursive, with the first name "Brandon" written in a larger, more prominent script than the last name "Kunkel".

Brandon Kunkel
Team Leader

Attachments:

- *Sport Light Photometric Plan*
- *Improvement to Loker Conservation and Recreation Area Bidding Documents, dated February 28, 2019*