

SITE ASSESSMENT

Overview

The intent of the site-related feasibility study is to provide a general analysis of the site of the existing Wayland High School with regard to its suitability for proposed improvement, enlargement, modernization, and energy efficiency modifications to the physical plant and school complex. The current enrollment is approximately 875 students; the projected necessary capacity is for an additional 250 to 300 students for a total of 1100 to 1200 students.

The intent of the site feasibility study is to present data collected from record information and observable characteristics and to explain relevant site-related study, design and permit processes that influence the use of the site for the intended purpose.

Given the fact that site feasibility study occurs at an early stage in the planning process, while many aspects of the project have not yet been defined, generalizations will be used as the basis for determining areas of concern, anticipated permitting, level of site disturbance, and recommendations. No survey location of property lines, wetlands boundaries, definitive traffic studies or on-site explorations has been provided as part of the scope of services of this study. Research relies upon record data and information prepared and provided to us by others.

No comparisons with other sites within Wayland have been included in the scope of services as there does not appear to be other sites available that meet the criteria for a high school.

Facility Needs

According to Massachusetts Department of Education School Building Administration regulations, a modern academic high school requires a site that has the ability to “meet the educational need and minimize any possible adverse educational, environmental, social, or economical impact upon the community. Such adverse impacts include, but need not be limited to the need to provide new sewers, roads, transportation facilities, water supply, water connections, and the like to the site; existence of soil conditions which will cause site development costs to be greatly increased, curtailment of the approved educational program.”

Considerations regarding site suitability for use as an academic high school include the following:

- Sufficient size to accommodate an academic high school plus playing fields, parking and other appurtenances, required setbacks and planned aesthetics;

- Location within the school population to serve efficiently and safely the school population it is intended to serve;
- Absence of olfactory, auditory, visual and noxious pollution;
- Suitable condition of roads in the immediate area to facilitate transportation and minimize the need for major road reconstruction;
- Proximity to other facilities such as libraries, museums, parks, natural resources, nature study areas, and business which would enhance the proposed educational program;
- Ability to provide adequate water supply either from a public water supply or on-site well(s);
- Ability to provide adequate sewage disposal by means of a public sewer system or suitable soils for an on-site subsurface wastewater disposal system;
- Access to public utilities (electricity, natural gas, telecommunications, cable television);
- Absence of potential hazards (high tension wire, towers, cliffs, etc.); and
- Proximity to fire, medical assistance, police facilities.

General Description

The site is shown on Wayland Assessors' Maps as Map 37, Parcel 34. It is approximately 77.5 acres in size, and it is located on Old Connecticut Path/Route 126, a major connecting road between the centers of Wayland and Framingham. Surrounding uses are the Town Pool and a residential neighborhood. The site abuts the Massachusetts MWRA Weston Aqueduct and Drain Easement. Plans provided by the Town Surveyor also show a Town of Wayland 15' drain easement, a right of way $\pm 20 - 40'$ from the corner of the existing field house, a "Water Easement" crossing the front of the property (toward and beneath the Town Pool building), an MDC drain pipe, a 12" C.I. blowoff pipe from the Weston Aqueduct and proximity of U.S. Fish & Wildlife land.

The site is now occupied by eight (8) buildings linked by covered walkways, plus a field house, several athletic fields, vehicle access road and parking areas. It is zoned Single Residence (SR).

With the exception of open water (Sudbury River), there are no other known potential hazards (cliffs, power lines, etc.) or nuisances associated with the site.

Existing constraints to the site's development include the following:

- The site's location is adjacent to the Sudbury River, a National Wildlife Refuge and Priority Habitat of Rare Species, and near a Certified Vernal Pool.
- Portions of the site are within the 100-year and 500-year flood plains.
- Public sewer is not available; area of suitable soils/adequate offset to groundwater and floodplain for subsurface sewage disposal appears to be limited.
- Site lies entirely within Zone II and partially within Zone I of the Town water supply (existing subsurface sewage disposal system is ± 530 feet of the well head).
- Adequate natural gas service is unavailable without off-site improvements.
- Traffic/safety issues regarding existing school site and access to public roadway.
- Deeded easements and rights-of-way require further investigation to determine whether/to what extent they may limit design options.

Utilities

Water: Public water is available at the site. The Wayland Water Department maintains eight gravel-packed groundwater wells throughout the Town, including the Happy Hollow Wells #1 and #2, and two water storage tanks with a combined storage capacity of 2.5 million gallons. Happy Hollow Wells #1 and #2, located near the Wayland High School athletic field parking area, each deliver approximately 500 gallons per minute to the town-wide system. It should be noted that the Town now exceeds well yields and withdrawal rates and is working with the state to develop significant water-saving measures. Water conservation measures must be applied in order to ensure a water supply sufficient to provide both domestic and fire flows serve the community and the school.

Sewer: The site is not currently served by public sewer. Two subsurface sewage disposal systems (SDS) now exist on the site; these passed an inspection in 2001. Both are pumped to knolls/plateaus in order to accommodate offsets to groundwater elevation. A new SDS including a package treatment plant would be needed to accommodate the increased flows as a result of the "new construction" at this site. The elevated gravel esker where the existing systems are located is limited in area. More study is required to determine whether another suitable location exists on the site. The Overlay Districts, previously noted, further limit available area. Please also see **Environmental**.

Electricity: Electricity is now provided to the site. We do not anticipate any limitations to the proposed use of the site. Both the provider and the Town specify below ground installation.

Gas: Under existing conditions, providing adequate natural gas service to the site would require approximately 1 ½ mile gas line upgrade. More information, which would be developed during the design development phase, is needed to determine the size of the mains for the upgrade and determination as to who will undertake the extension. Typically the gas company will extend the main at no cost for “large scale users”.

Telecommunications: The site is now served by multiple communication lines, including the E-911 system. We do not anticipate that any extension or expansion of these lines will limit the proposed use of the site.

Visibility, Access & Orientation

Visibility: The site offers excellent visibility for the school from Old Connecticut Path. The fact that the public is accustomed to this use at this site enhances public awareness.

The site appears to have the ability to provide adequate sight distance to permit safe entry onto and exit from the site; some minor clearing would improve sight distance. Please also see *Traffic*.

Access: The site now features a single access, which appears adequate, with improvements such as creating a double barrel entrance/egress routes and possibly creating a separate access for the Town Pool. There is a sidewalk on the opposite side of Old Connecticut Path/Route 126 and a crosswalk. The fact that this is a commuting route with significant traffic affects walking/biking safety.

Orientation: This topic affects the issues of visibility and solar orientation. As the site is mostly open, extensive clearing would not be necessary to make maximum use of solar energy. This is relevant with regard to the “Green Schools Initiative” program, which encourages and provides funding for design and construction of facilities that “conserve energy, use renewable resources and have lower annual utility and operating costs.” Because of the open nature and high elevation of the site, wind exposure would be a characteristic of the site.

Parking & Traffic

Parking: It appears that the site would be able to provide an adequate number of parking spaces to accommodate student/staff/visitor parking. Existing parking and on-site circulation is not conducive to efficiency and safety. There appears to be adequate area for a plan offering better alignment and opportunity for additional spaces. Town of Wayland parking requirements do not specifically apply to the

nature of this project; it is assumed that a parking plan based upon actual and projected use patterns will be negotiated with the Planning Board. The project would not affect existing parking practices in the vicinity, with the exception of potentially creating a separate parking area for the Town Pool.

The parking areas for the new school will be required to be paved, bermed and landscaped according to requirements of the Town of Wayland. Runoff from the parking lot will be required to be “treated” as an area tributary to “Outstanding Resource Waters” (ORW) on this site according to requirements of the Department of Environmental Protection’s (DEP) Stormwater Management Policy enacted in November 1996.

Traffic: A search for record traffic data was conducted. Massachusetts Highway Department and the Central Transportation Planning Staff counts taken at points on Route 126 north of Route 27 and in Framingham are included with this report. No existing more relevant traffic studies were found. Wayland Police Department accident data show that ten accidents occurred at the school in the most recent year of record (2000). Five occurred at the entrance to the school and five within school driveways/parking areas.

Traffic volume of approximately 2,148 total trips per day can be predicted for a 1200 student high school, according to the Institute of Traffic Engineers Trip Generation Manual, 6th edition (403 trips greater than estimated existing traffic volume). It is anticipated that improvements to the intersection of the school access drive and Old Connecticut Path will be necessary in order to accommodate new and existing traffic during brief morning and afternoon periods of bus and student vehicle entrance/egress and parent drop-off, along with attention to the design of safe circulation pathways on the site.

Environmental

Wetlands: As previously mentioned, the site is adjacent to the Sudbury River. If any work is proposed within areas protected under the Wetlands Protection Act or the local Wetlands Protection Bylaw, filings with the Wayland Conservation Commission will be necessary. The Wetlands Protection Act Rivers Regulations would apply, requiring a 200’ riverfront buffer area that limits the use of areas within the riverfront buffer.

Please also see *Endangered Species*.

Floodplain: Portions of the site are within the 100-year and the 500-year floodplains. Some existing facilities (playing fields, parking) are below floodplain elevation.

Groundwater: Seasonal high groundwater level is estimated between 120’ and 121’ based upon existing flood plain data and discussions with school personnel regarding the wetness and flooding of the rear athletic field. Groundwater elevation will affect

many aspects of the project, e.g. sewage disposal, building foundations, grading, drainage.

As noted elsewhere, the entire site is within the Zone II wellhead protection areas of the Wayland public water supply groundwater wells, and part of the site is within the Zone I. The existing SDS is ± 530 feet from the wellhead.

Endangered Species and Habitat: The Massachusetts Division of Fisheries and Wildlife, Natural Heritage & Endangered Species Program (NHESP) most recently published Natural Heritage Atlas (1999 – 2001) shows the Sudbury River as Rare Species Priority Habitat. Should NHESP determine that this site “intersects” with the estimated habitat area, the suitability of the site for school expansion may be affected, depending upon the range of the species identified with the site; a filing under 321 CMR 10.00 (MESA) may be required.

Underlying Soil Suitability (Structural): David E. Ross Associates, Inc. does not provide structural soils analyses. This office recommends that some preliminary test pits be excavated to confirm its structural suitability.

Underlying Soil Suitability (SDS & Drainage): Based upon record data, soils on site are sands and gravels associated with the outwash plain from the Sudbury River, along with some clayey silt (impervious) layers overlying sands/gravels. The silty soil layers are likely to have an impact on the construction costs, depending on location and elevation.

Slopes: As noted, the site is of generally low elevation, with gravel eskers. The site features a predominantly southeastern exposure.

Hazardous Waste: In April 2002, Wayland High School received a Notice of Noncompliance from Massachusetts Department of Environmental Protection (DEP) for illegal discharge of industrial effluent to groundwater without a permit and plan approval. The illegal discharge consisted of chemistry lab wastes, spent photo-processing chemicals and rinses and art rooms wastewater, which were discharged via the school’s septic system. In June, the state Office of Technical Assistance provided a report and suggestions to assist the school to reduce the use of toxic chemicals and improve safety conditions. Among the suggestions was separation of waste streams and installation of a holding tank for hazardous or potentially hazardous discharges. The school is in the process of implementing this plan and bringing the school into compliance. Copies of relevant correspondence are attached to this report.

There is no other known contamination present at the site nor is there any known past use of the site that would suggest contamination.

Regulations

Local regulations:

Zoning - The site is located in Single Residence (SR) Zoning District. The minimum lot size within this district is 80,000 square feet. Educational uses are allowed in the SR Zoning District by right.

Massachusetts General Laws Chapter 40A, Section 3 establishes zoning exemptions for land development projects including schools. While prohibiting local bylaws from regulating or restricting the use of facilities for educational, Section 3 does allow such facilities to be subject to reasonable regulations concerning the bulk and height of structures and determining yard sizes, lot area, set-backs, open space, parking and building coverage requirements.

Dimensional requirements for development within the SR Zoning District are as follows:

<i>Zoning Criteria:</i>	<i>Required:</i>
Lot Area:	80,000 s/f
Setbacks (feet)	
Front (from lot line):	30'
Front (from ROW center line):	55'
Side:	varies 15' – 30' <i>(Please see §198-702.4 and 703.2)</i>
Rear:	30'
Frontage (min. ft.)	varies per §198-705.1.8. <i>(Site has 500' which is sufficient for all)</i>
Maximum Building height	35'
Maximum Number of Stories	2 ½
Maximum Lot Coverage (percentage)	20 %

Conceptual designs indicate that the site would be able to accommodate the above setback and measurement requirements (Please see conceptual plans provided with this report).

The site is also within the following Overlay Districts: Aquifer Protection Overlay District, Watershed Protection District, Floodplain District, and Federal Flood Protection District.

Wetlands (ANORAD & NOI) – Filings with the Wayland Conservation Commission, under the Massachusetts Wetlands Protection Act and the Town of Wayland Wetlands Protection By-law, will be necessary for any work proposed within protected resource areas. These include an Abbreviated Notice of Request for Resource Area Delineation (for consensus/confirmation of wetlands resource area limits) and Notices of Intent for work proposed within protected areas.

Aquifer Protection District - This overlay district is defined as that area designated “Zone II” by the Commonwealth of Massachusetts; this includes the high school site

in its entirety. Based upon Article 16 of the Code of Wayland (Aquifer Protection District), we anticipate the need for Special Permits from the Planning Board for sewage disposal, the laboratory/art/photo processing holding tank, and rendering impervious 15% of the lot or 2,500 s.f. (requiring groundwater recharge).

Watershed Protection District – The site is not located within this district being located in the more restrictive Aquifer Protection District, as noted above.

Floodplain District & Federal Flood Protection District – Portions of the site is located in the Town's floodplain district, as defined by the 124 contour elevations, and in the Federal Floodplain District based on the Zone A and B identified on the FIRM maps. If the project involves work within these areas, a Special Permit from the Zoning Board of Appeals is required.

Historic District – The site is not within a registered historic district. According to our search of existing records, the site has no known historic or pre-historic special significance. However, it is advisable to submit a Project Notification Form (PNF) to the Massachusetts Historic Commission for confirmation. It is our understanding that the School Building Administration requires that a copy of the PNF be filed with applications for assistance.

Site Plan Approval – Although not technically required for this project except for dimensional and parking provisions (per Massachusetts General Laws Chapter 40A, Section 3, cited above) it is anticipated that the school department will submit, as a courtesy, an Application for Site Plan Approval by the Planning Board outlining all aspects of the project before applying for a building permit from the Building Inspector. Such submission will demonstrate compliance with all requirements of the By-laws. For projects of this scope, a full Traffic Impact Statement is anticipated to be required as part of the submittal.

Earth Removal - Section 198-504 of the Town of Wayland General Regulations states that the removal of soil, loam, sand, gravel, or any other earth material from Town-owned land for construction/alteration must not exceed the volume displaced by the building, walks, drives and other appurtenances. Otherwise, special permit from the ZBA is required.

Building Permit – A Building Permit from the Building Inspector will be needed, following Site Plan Approval and prior to the initiation of construction.

Driveway/ Accessway Permit(s) – A local permit for access onto a public road may be required, should the location/configurations be changed from the existing curb cut.

Road Opening Permit – A road-opening permit will be required for any excavation or construction of any kind within the right-of-way or that has an effect on the right-of-way. Permits are granted by the Town Surveyor; *road openings 100 feet or more also*

require permission from the Board of Selectmen. Even if it is not necessary to develop a new connection to public water, this may be necessary for purposes of connecting to the drainage system in the public way.

Sewage Disposal – The on-site subsurface wastewater disposal system/wastewater treatment plant for the school will require soil testing and system design in order to obtain a Disposal Works Construction Permit from the Wayland Board of Health, pursuant to the Board’s Regulations for Design, Operation and Maintenance of Small Wastewater Treatment Facilities.

State regulations:

Massachusetts Department of Environmental Protection (DEP) – If the proposed school is to be served by a sewage treatment plant, a permit for a state groundwater discharge permit will be needed.

Massachusetts Historical Commission (MHC) – Although, to the best of our knowledge, the site features no historical or archaeological cultural resources, we recommend that a Project Notification Form (PNF) be filed with MHC should this site continue under consideration for a new school location. The PNF notifies the MHC of plans to develop a site and is required prior to the release of any state funding or the issuance of state permits for a project. The scope of this process is limited to the collection of data and the filing of a form. It is recommended that the PNF be filed as early as possible, in order to eliminate later delay should the site be considered to have cultural significance.

MEPA – A filing with the Massachusetts Environmental Policy Agency, as administered by the Secretary of the Executive Office of Environmental Affairs (301CMR.11) is required for projects with levels of impact exceeding certain thresholds. At this time, it appears that one or more thresholds listed in 301CMR.11.03, may be met or exceeded, and a filing under MEPA will be required. Even if no thresholds are met or exceeded, it is our experience that some state agency funding sources require that an ENF be filed or that a letter to the Secretary of Environmental Affairs be written in order to demonstrate that the project is in compliance with these regulations. Also, it should be noted that the Secretary has the discretion to require an ENF and further review, including a full EIR.

MESA - As noted previously, it is possible that this site will be determined by the Massachusetts Division of Fisheries and Wildlife, Natural Heritage & Endangered Species Program (NHESP) to “intersect” with Rare Species Priority Habitat. This has the potential of complicating and delaying the project to an unpredictable extent. An appropriate setback is usually negotiated with NHESP, often following habitat studies by specialized sub-consultants, sometimes spanning more than one breeding season. Should negotiations fail, the NHESP may issue a determination of adverse impact; the process to appeal this decision is not clearly defined and may be lengthy.

Other regulatory filings

NPDES - This filing consists of a confirmation that the site is able to meet the federal and Massachusetts criteria for storm water management. This filing requires the applicant to confirm, to both the Commonwealth of Massachusetts and to the Federal Government, that no pollution will be discharged to surface waters, and that any spills or potential contaminants will be addressed prior to entering the storm water stream and thereby possibly polluting any waters or areas. This type of filing may be necessary depending on the proposed activities to take place on the site. In general this is not a rigorous filing to permit.

Community Impacts

Neighborhood: The site is located in a neighborhood that is mostly residential. The public high school now exists in the neighborhood. It is assumed that the proposed enhancements will have some positive impacts (traffic safety improvements), and some perceived negative impacts upon the surrounding neighborhood.

Public access: We do not anticipate that there will be limitations to public access should the high school be expanded at this site. Security measures will impose some limits to public access, and some existing trails may need to be re-routed. It is assumed that the outdoor recreational facilities that will be included in the project will be available for public use. Public access may, in fact, be enhanced if the Town pool complex, which now shares the high school driveway, is provided separate access, as planned.

Summary

Is the site able to meet the program requirements for the proposed improvement, enlargement and modernization of the Wayland High School physical plant?

It is this office's opinion that no clear impediment exists that would prohibit the use of this site for an improved, enlarged, modernized Wayland High School. However, as noted in this report, there are features of the site that will require creative attention to site design and have the potential to complicate design and permitting processes.

The major constraints of this site relate to its location within Zone I/Zone II of the public water supply and the limited area with suitable soils and offsets to groundwater and floodplain elevation. Further investigations are needed to further assess these and other issues identified in this report. Additional research also is needed to substantiate the specifics of infrastructure, sewer system capacity, environmental permitting and related standards; this research typically is performed as part of the design-development process.