

Town of Abington School Feasibility Study

information & data
gathered as of August 26, 2013

Submitted to
Mass. School Building Authority
on 9/18/13
for review and comment

1	Major Milestones Timeline
2	Facilities Evaluation
3	Site Evaluations Summary 32 pages
4	Educational Visioning Summary Document
5	Educational Programming Document
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7	Space Summary Documents
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9	Evaluation Matrix
10	Draft of Cost Analysis Options
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12	Review of Major Milestones

Site Development Requirements

review of potential school sites

Our review of possible school sites within the Town of Abington included a review of those sites mentioned as part of the 2003 Master Plan Study. In that study, many sites across the Town of Abington were reviewed as possible candidates for a new school facility. Over 20 parcels were identified as potentially having enough acreage to support a new school facility, without any specifics on the site characteristics that might possibly restrict or prohibit development of the land. In order to ensure that all possible sites were considered under the current feasibility study, sites which may have been identified in the past were reviewed in combination with any other suggested sites. Most of the sites that have sufficient acreage also have significant restriction such as wetlands, limited access, impractical grading (too steep), lack of utilities, etc.

There are many economic, geographic, and physical impacts that need to be reviewed and considered when identifying an appropriate site for the development of an educational facility. Economic impacts include the cost of the site to the Town as well as the costs associated with supplying the various required utilities to the site. Geographic impacts include proximity to the Town's residences, downtown and other schools. Physical impacts include buildable area, resource areas onsite, existing uses and structures on the property and access to the property.

It is also important to note that building a new school on a site that already includes the development of a school can have significant benefits and potentially save the Town millions of dollars. MSBA guidelines typically allow reimbursement grant money on site costs of up to 8% of building construction costs. Since most schools built on new sites exceed this 8% cap by a significant amount due to the need for new utilities, drainage, grading, etc., it is common for new building projects (on sites not previously developed for a school) to have substantial site costs that the Town will not be reimbursed for, and will therefore have to pay 100% of such costs. These costs can be millions of dollars. New school projects that build on existing school sites or additions to existing schools typically have reduced site costs, and this site cost differential is likely to be a 100% savings to the Town of Abington. Additionally, since existing Abington schools are on town sewer and new sites may not be, the substantial cost of on-site sewage disposal, if required, could be a significant unreimbursed cost to the Town. One example of this would be the new high school in East Bridgewater, where the lack of sewage utilities resulted in an additional \$3.0 million cost for a wastewater treatment facility on the school site.

The following parameters were used to initially review and evaluate potential properties:

Cost of Property

Some of the properties under consideration are not currently owned by the Town. Any property currently not owned by the Town and costing over \$1.0 million was eliminated from consideration, as the Town does own property that is sufficiently sized, well located, and having the required utilities; therefore paying a \$1.0 million premium does not seem practical.

Location in Town

The location within the Town is an important consideration for busing and access. Sites at the

perimeter of the Town may not be as desirable due to increased busing costs and lack of easy accessibility for the people in Town to utilize the school and its facilities.

Restricted Access

Undesirable scenarios for access apply to sites with no frontage or requiring access through a minor street. If the site has no frontage, additional land would need to be purchased or an easement would need to be obtained. Access to the property through a neighborhood or on a minor road would have potentially negative impacts on the area and the abutters.

Buildable Area

The amount of buildable area on the property may be restricted due to one or more of the following: lot size, building setbacks or wetland resource areas. Based on the similar uses and some conceptual layouts, it was determined that some of the sites did not provide enough buildable area.

Abutting Properties

The area surrounding each site was evaluated to determine if it provided an appropriate context for a school environment. Abutters that were favorable included residential areas, commercial areas, and roads that have existing sidewalks. Areas that were less desirable included industrial areas and roads with high volumes of traffic and a lack of existing sidewalks.

The table below lists all of the sites that were considered as well as the reason(s), if any, for each site's elimination from further consideration. Additional details explaining the reason(s) for each site's elimination is provided below the table. Site 5 was the only site that was not eliminated, even though it involved some of the same limitations and constraints as the other sites. It was determined that Site 5 presented many benefits that far outweighed the limitations including, but not limited to, its central location, ease of access, available utilities, and low cost.

Site		Reason(s) for Elimination
1	0 Chestnut Street	Location in Town Restricted access
2	1015 Plymouth Street	Location in Town
3	589 Plymouth Street	Lot Area
4	Dorsey Street	Buildable Area
5	Existing High School Property	
6	0 Adams Street – AP 69, Lots 1, 1A, and 1B	Location in Town Buildable area Abutting Properties
7	1325 Bedford Street	Location in Town Abutting Properties
8	500 Gliniewicz Way	Buildable area
9	0 High Street	Location in Town
10	500 Chestnut Street	Location in Town Restricted Access
11	0 Hancock Street	Location in Town
12	0 Rockland Street	Buildable Area
13	0 Chestnut Street – AP 48, Lot 10	Location in Town Restricted Access
14	375 Centre Avenue	Property Acquisition Cost Location in Town Existing Site Use
15	0 Linwood Street	Buildable Area
16	0 Vineyard Road	Restricted Access
17	0 Granite Street	Buildable area
18	326 Plymouth Street	
19	0 Chestnut Street – AP 50 Lot 5	Buildable area

Feasibility Study - Abington Public Schools

20	651 Randolph Street	Location in Town Restricted Access
21	95 North Quincy Street	Location in Town
22	0 Chestnut Street – AP 50, Lot 43	Buildable Area
23	164 Washington Street	Property Acquisition Cost Location in Town
24	0 Adams Street – AP 65, Lot 120	Location in Town Restricted Access – Railroad Crossing
25	1071 Washington St.	Buildable Area Existing Site Use

Eliminated Sites

Site 1 0 Chestnut Street

The property at 0 Chestnut Street does not have any frontage on a town road. Access to the site is limited because an easement through another lot or the purchase of additional land would be required. Additionally, the site is located in the western portion of the Town, rather than centrally located within the Town's developed residential districts and therefore does not provide ease of access to potential users of the facilities.



- LEGEND**
- CONTOUR (MASS GIS)
 - WETLAND (MASS GIS)
 - MAJOR STREAMS AND PONDS (MASS GIS)
 - PROPERTY LIMIT (MASS GIS)
 - PARCEL LINE (MASS GIS)
 - ZONING (MASS GIS)
 - ZONING SETBACKS
 - FEMA (MASS GIS)
 - PRIORITY HABITAT (MASS GIS)
 - SOILS (MASS GIS)
 - SURFACE WATER PROTECTION AREA (MASS GIS)
 - CERTIFIED VERNAL POOL (MASS GIS)
 - POTENTIAL VERNAL POOL (MASS GIS)



GIS Constraints - Frolio Middle School

Abington, Massachusetts

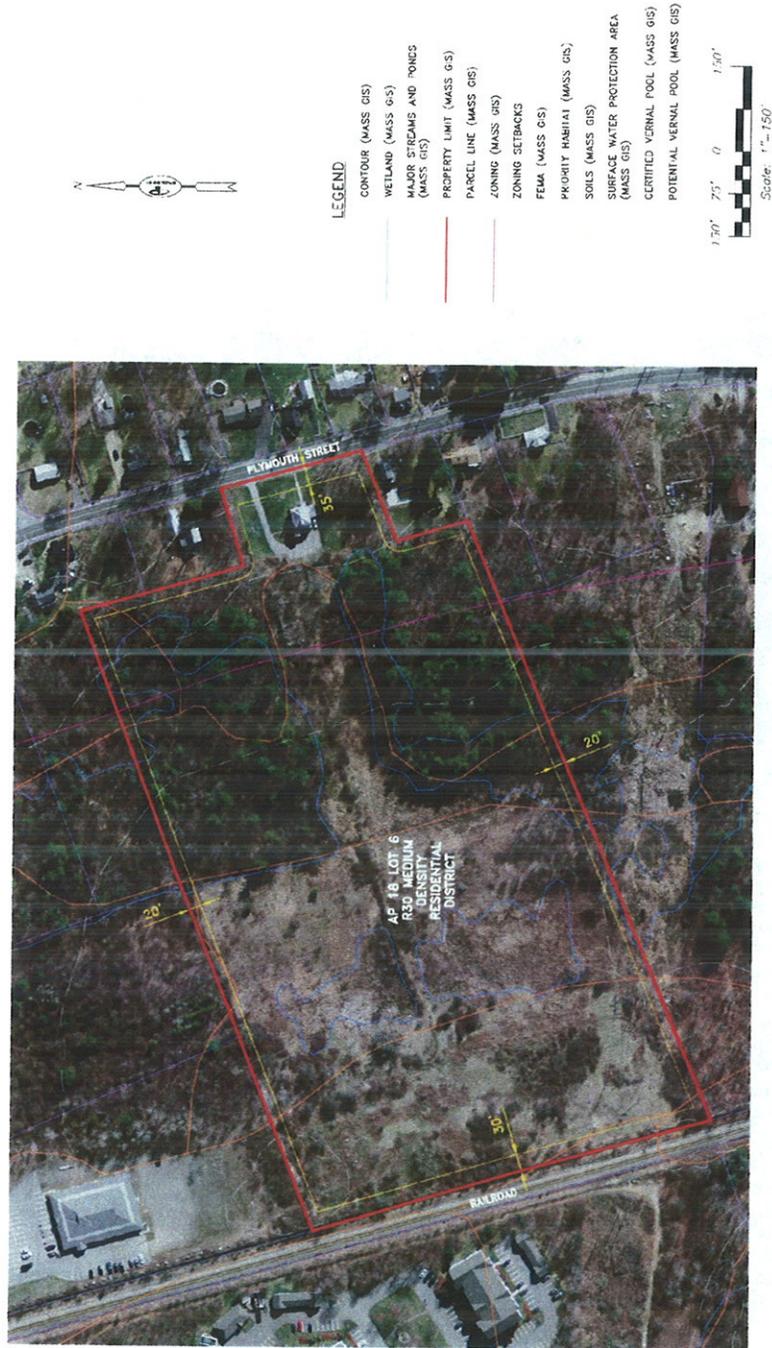
0 Chestnut Street - AP 41, Lot 10



526 Boston Post Road
Beverly, MA 01928

Site 2
1015 Plymouth Street

This site is located in the southeast corner of the Town and therefore does not present appropriate proximity to all residents.



GIS Constraints - Frolio Middle School
 1015 Plymouth Street - AP 18, Lot 6
 Abington, Massachusetts

Site 3
589 Plymouth Street

With less than 2 acres of buildable area, this site does not provide adequate area to effectively house a new middle school with all the necessary facilities.



LEGEND

- CONTOUR (MASS GIS)
- WETLAND (MASS GIS)
- MAJOR STREAMS AND PONDS (MASS GIS)
- PROPERTY LIMIT (MASS GIS)
- PARCEL LINE (MASS GIS)
- ZONING (MASS GIS)
- ZONING SETBACKS
- FEMA (MASS GIS)
- PRIORITY HABITAT (MASS GIS)
- SOILS (MASS GIS)
- SURFACE WATER PROTECTION AREA (MASS GIS)
- CERTIFIED VERNAL POOL (MASS GIS)
- POTENTIAL VERNAL POOL (MASS GIS)

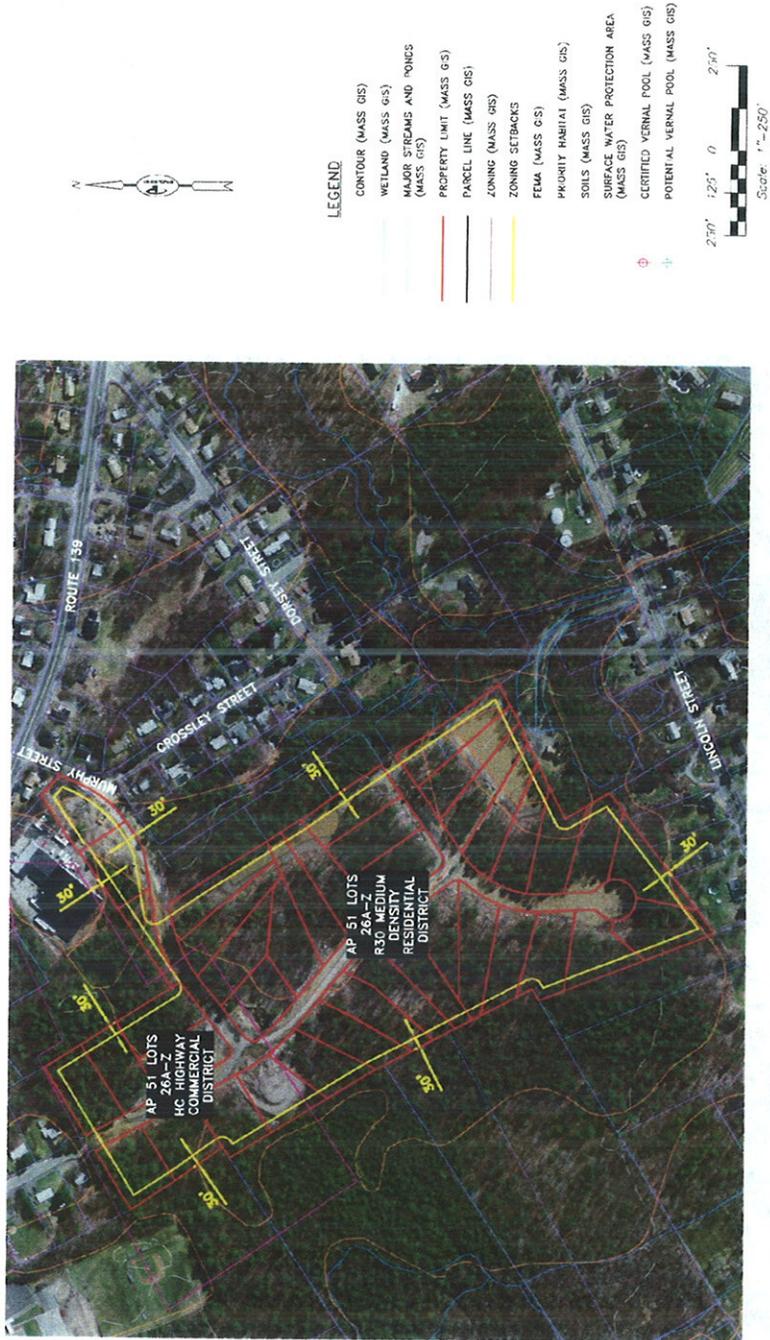
80' 40' 0 90'

Scale: 1"=80'

GIS Constraints - Frolio Middle School
 589 Plymouth Street - AP 32, Lot 45
 Abington, Massachusetts

**Site 4
Dorsey Street**

The buildable area of this site is limited by existing surface drainage features on the property and includes previously subdivided land with paved streets. These restrictions decrease the feasibility of the site to conveniently host a new school facility.



GIS Constraints - Frolio Middle School
Dorsey Street - AP 51, Lots 26A-Z
Abington, Massachusetts

Site 6
0 Adams Street

This site is located in the northeast corner of the Town. This location does not provide desired access for town residents. Additionally, the buildable area of the site is significantly reduced due to wetland restrictions. The abutting properties are zoned for technology business and are used for industrial purposes, which does not provide a strong benefit or connection to the school being constructed at this site.



GIS Constraints - Frolio Middle School

Abington, Massachusetts

0 Adams Street - AP 69, Lots 1,1A,1B

Site 7
1325 Bedford Street

This site is located in the northeast corner of the Town and is too remote for many of the town residents. Additionally, the abutting properties are zoned for technology business and are currently used for industrial purposes.



LEGEND

- CONTOUR (MASS GIS)
- WETLAND (MASS GIS)
- MAJOR STREAMS AND PONDS (MASS GIS)
- PROPERTY LIMIT (MASS GIS)
- PARCEL LINE (MASS GIS)
- ZONING (MASS GIS)
- ZONING SETBACKS
- FEMA (MASS GIS)
- PRIORITY HABITAT (MASS GIS)
- SOILS (MASS GIS)
- SURFACE WATER PROTECTION AREA (MASS GIS)
- CERTIFIED VERNAL POOL (MASS GIS)
- POTENTIAL VERNAL POOL (MASS GIS)

Scale: 1"=200'

200' 100' 0 200'

GIS Constraints - Frolio Middle School
 1325 Bedford Street - AP 64, Lot 71
 Abington, Massachusetts

Site 8
500 Gliniewicz Way

The buildable area of this site is limited by wetland features and the existing town hall and library leaving insufficient connected area to comfortably host a new school building and facilities.



GIS Constraints - Frolio Middle School

500 Gliniewicz Way - AP 38, Lot 13
 Abington, Massachusetts



Site 9
0 High Street

This site is located at the southern border of the Town. Being on the outskirts of town, this location does not provide ideal access to all potential users of the facility.



GIS Constraints - Frolio Middle School
0 High Street - AP 5, 1 or 18

Abington, Massachusetts

Site 10
500 Chestnut Street

This site is located in the western portion of the Town, far from the Town's developed residential areas. This location is not ideal to facilitate the best access for potential users of the facility. Additionally, this property is not adjacent to a town road. Access would need to be gained through the purchase of additional land or through an easement through another property.



GIS Constraints - Frolio Middle School

500 Chestnut Street - AP 49, Lot 7
 Abington, Massachusetts



Site 12
0 Rockland Street

This site is segmented by water bodies including a pond. These natural features restrict and segment the buildable area of the site reducing the feasibility of the site to effectively house a new school.



GIS Constraints - Frolio Middle School

0 Rockland Street - AP 22, Lot 43
Abington, Massachusetts

Site 13
0 Chestnut Street - AP 48, Lot 10

This site is located in the western portion of the Town, far from the Town's developed residential areas. This remote location is not ideal to facilitate the best access for potential users of the facility. Additionally, this property is not adjacent to a town road. Access would need to be gained through the purchase of additional land or through an easement through another property.



GIS Constraints - Frolio Middle School
 0 Chestnut Street - AP 48, Lot 10
 Abington, Massachusetts



Site 14
375 Centre Avenue

This property is currently not under ownership by the Town and is developed for business purposes. The development of the land creates a high property value that would make acquisition of the property costly. Additionally, the property is located on the southeastern Town border, allowing unequal access for potential users of the facility.



GIS Constraints - Frolio Middle School
 375 Centre Avenue - AP 32, Lots 60-62: AP 33, Lot 16 Abington, Massachusetts



Site 15
0 Linwood Street

This site is characterized by wetland features on the property. These areas limit the amount of buildable area of the site and the potential for the site to effectively house the proposed facilities.



- LEGEND**
- CONTOUR (MASS GIS)
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 - MAJOR STREAMS AND PONDS (MASS GIS)
 - PROPERTY LIMIT (MASS GIS)
 - PARCEL LINE (MASS GIS)
 - ZONING (MASS GIS)
 - ZONING SETBACKS
 - FEMA (MASS GIS)
 - PRIORITY HABITAT (MASS GIS)
 - SOILS (MASS GIS)
 - SURFACE WATER PROTECTION AREA (MASS GIS)
 - CERTIFIED VERNAL POOL (MASS GIS)
 - POTENTIAL VERNAL POOL (MASS GIS)
- Scale: 1"=200'

GIS Constraints - Frolio Middle School

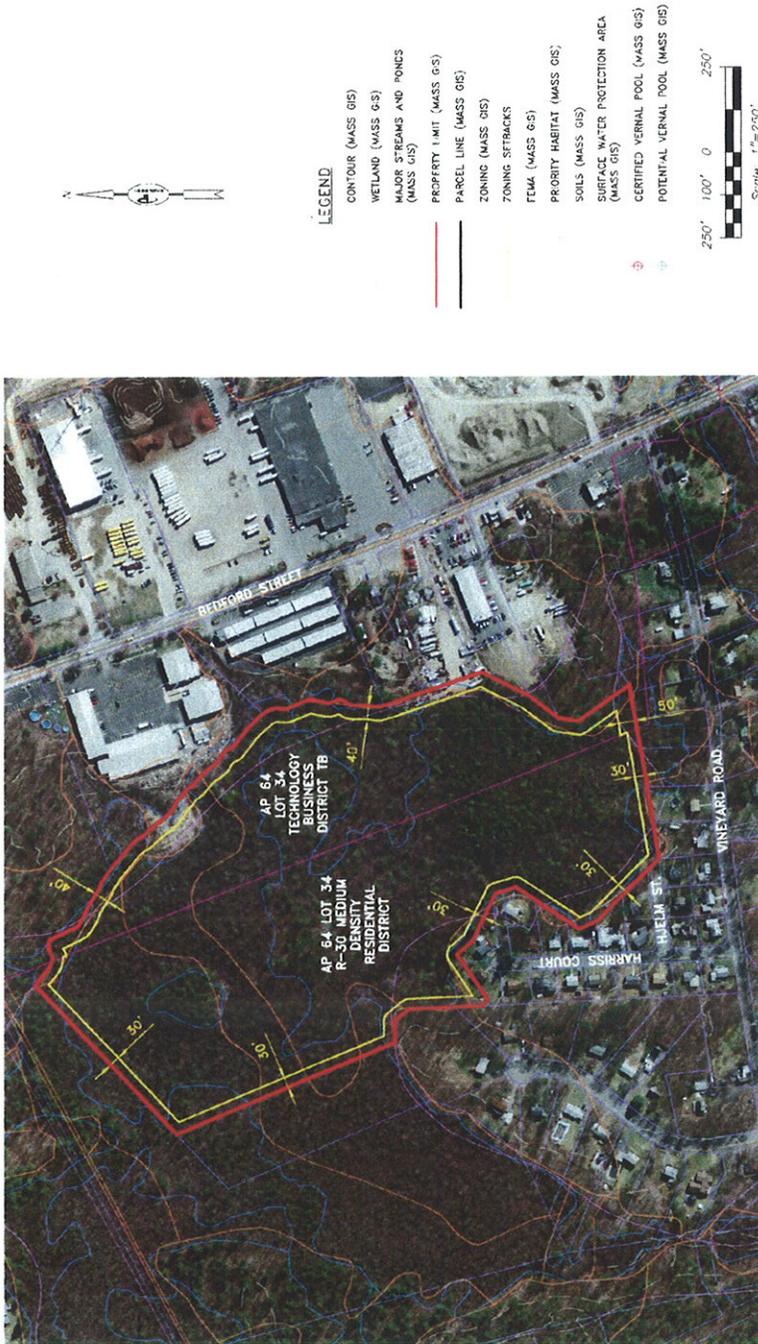
Abington, Massachusetts

0 Linwood Street - AP 20, Lot 18Z



Site 16
0 Vineyard Road

The portions of this site that are not limited by wetland features are abutted by residential and commercial properties and are not adjacent to a town road. Access would need to be gained through the purchase of additional land or through an easement through an existing development.

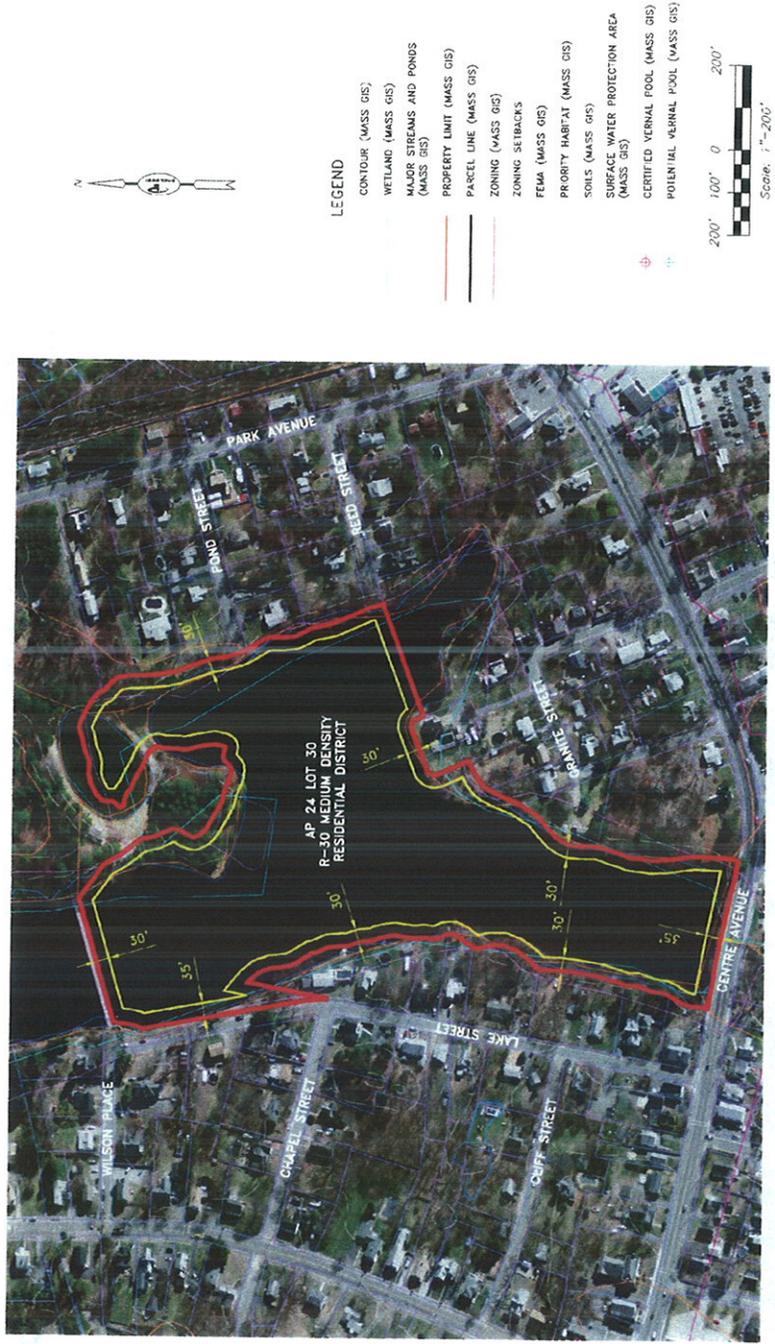


GIS Constraints - Frolio Middle School

0 Vineyard Road - AP 64, Lot 34
 Abington, Massachusetts

Site 17
0 Granite Street

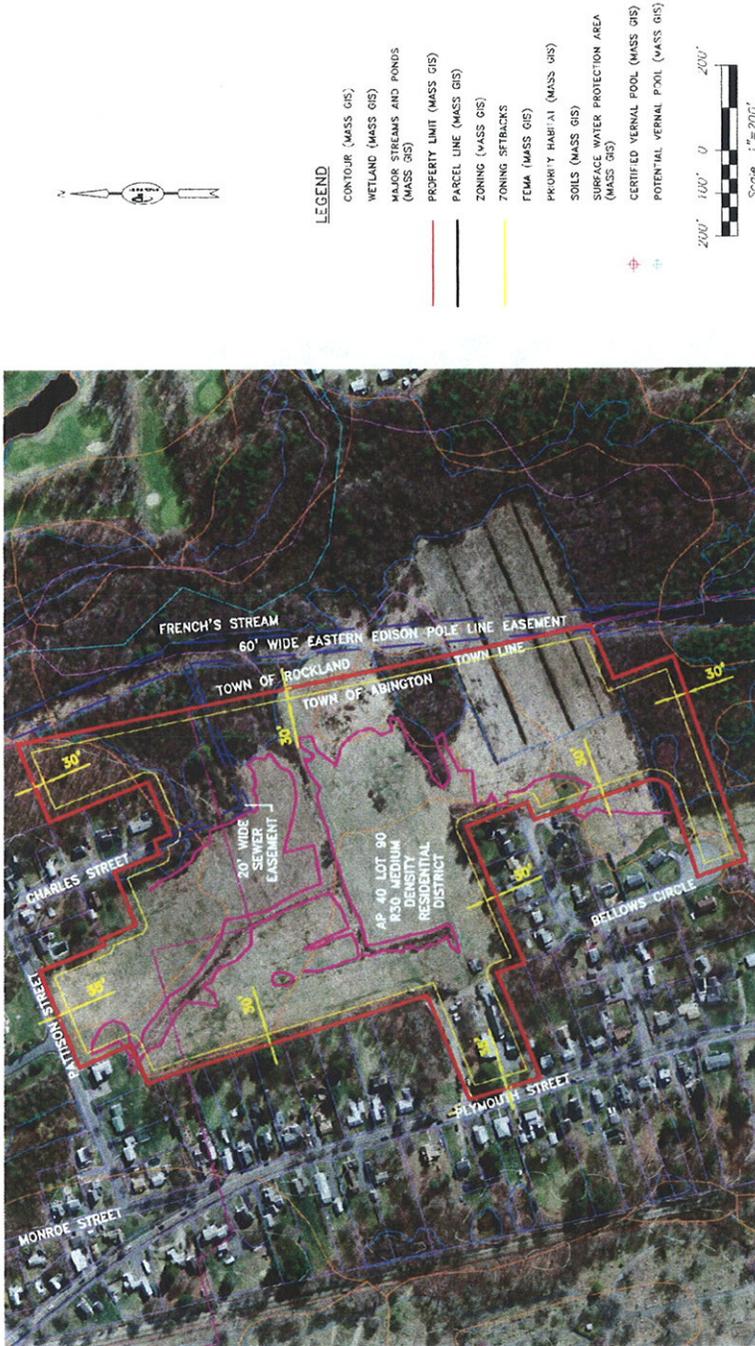
This site is occupied almost entirely by a water body eliminating nearly the entire property from the buildable area.



GIS Constraints - Frolio Middle School
 0 Granite Street - AP 24, Lot 30
 Abington, Massachusetts

Site 18
326 Plymouth Street

This property remains as a viable property for a school; however, the available area is limited as a result of the wetland features and utility easement on the site. The available area would likely allow for a single school (such as a middle school), but would not support a larger co-located school and would not provide fields and other site amenities to support a co-located middle/high school facility. Additionally, the costs associated with clearing and grading the property, as well as providing the appropriate utilities, would also be significant (millions of dollars) compared to a site such as the existing high school site.



GIS Constraints - Frolio Middle School

Abington, Massachusetts

326 Plymouth Street - AP 40, Lot 90



526 Boston Post Road
 Abington, MA 01770

Site 19
0 Chestnut Street - AP 50, Lot 5

The buildable area of this site is limited by wetland features, NHESP priority habitat area, and building setbacks specified by a zoning bylaw of the Town of Abington. These limitations decrease the site's ability to practicably house the school facility.



GIS Constraints - Frolio Middle School
 0 Chestnut Street - AP 50, Lot 5
 Abington, Massachusetts

Site 21
95 North Quincy Street

This site is characterized by wetland features on the property. These areas limit the amount of buildable area of the site and the potential for the site to effectively house the proposed facilities.



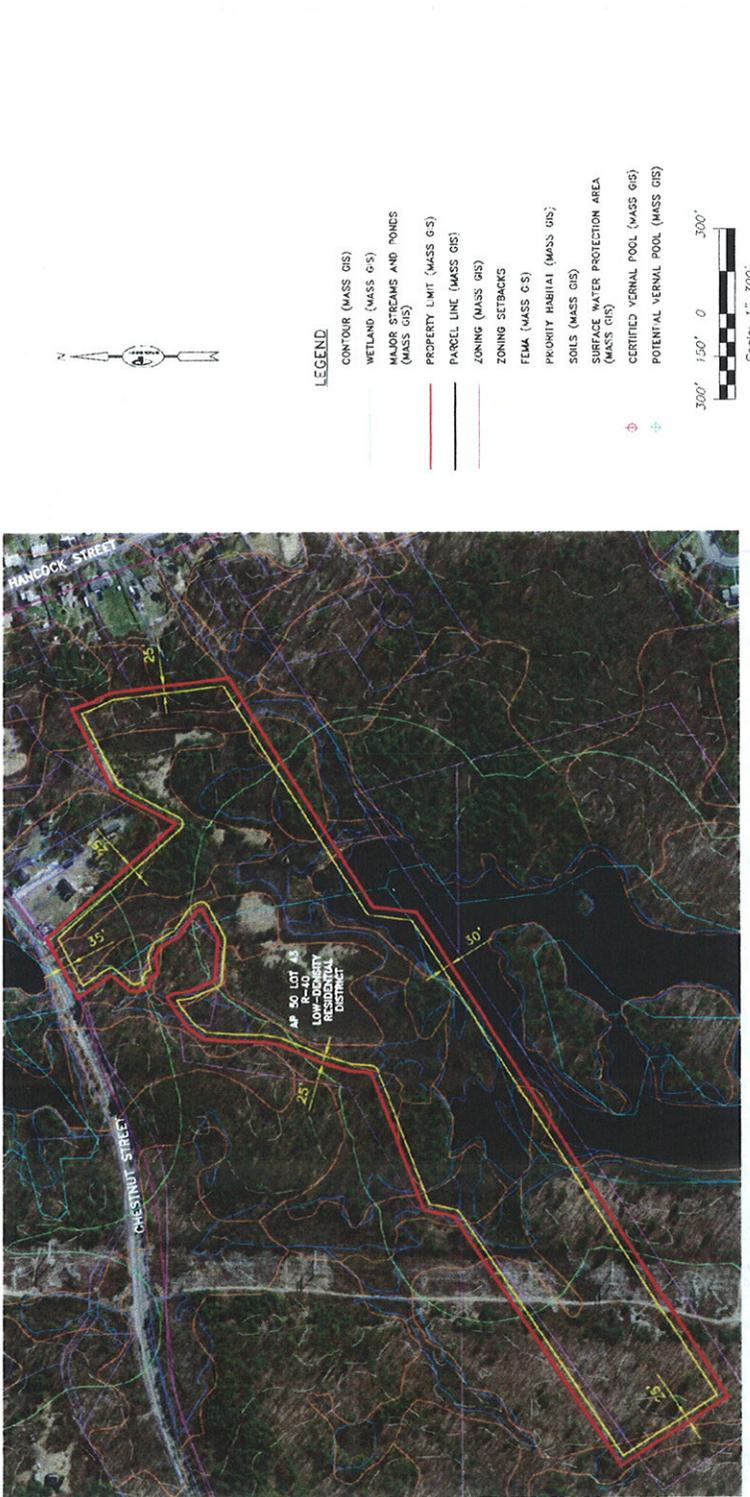
- LEGEND**
- CONTOUR (MASS GIS)
 - WETLAND (MASS GIS)
 - MAJOR STREAMS AND PONDS (MASS GIS)
 - PROPERTY LIMIT (MASS GIS)
 - PARCEL LINE (MASS GIS)
 - ZONING (MASS GIS)
 - ZONING SETBACKS
 - FEMA (MASS GIS)
 - PRIORITY HABITAT (MASS GIS)
 - SOILS (MASS GIS)
 - SURFACE WATER PROTECTION AREA (MASS GIS)
 - CERTIFIED VERNAL POOL (MASS GIS)
 - POTENTIAL VERNAL POOL (MASS GIS)

GIS Constraints - Frolio Middle School
 95 North Quincy Street - AP 26, Lot 4 CD
 Abington, Massachusetts

Site 22

0 Chestnut Street - AP 50, Lot 43

The buildable area of this site is limited by wetlands, water bodies, NHESP priority habitat, and a utility easement reducing the site's ability to effectively house the school facility.

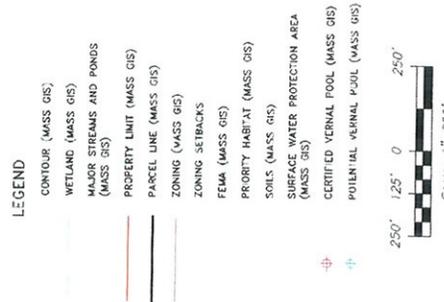
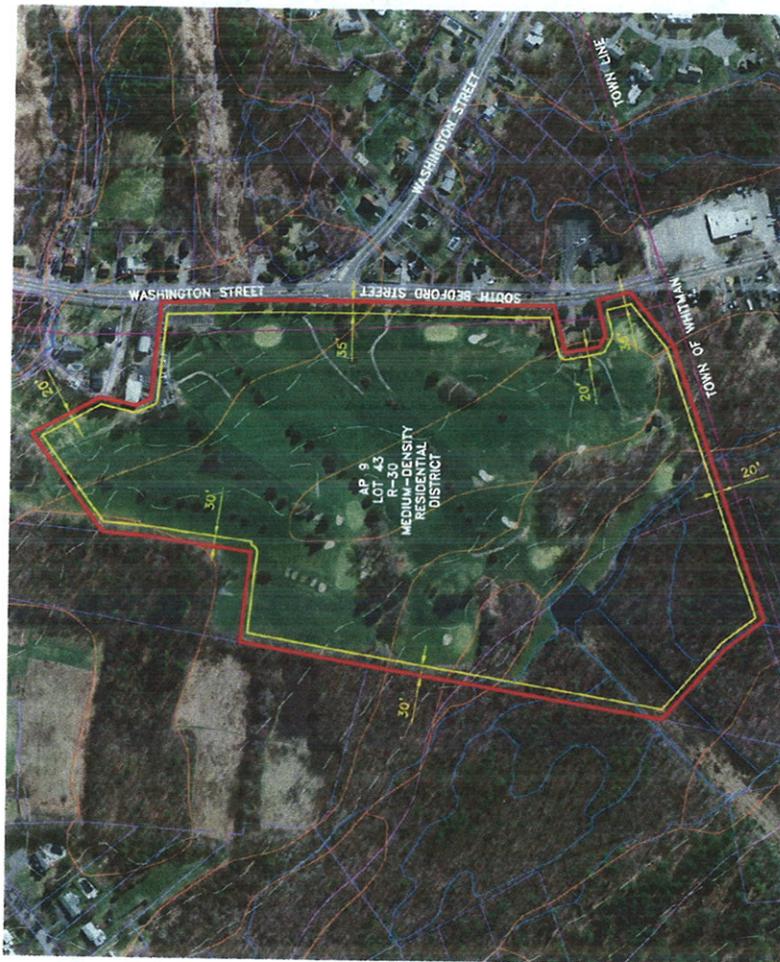


GIS Constraints - Frolio Middle School
 Abington, Massachusetts

0 Chestnut Street - AP 50, Lot 43

Site 23
164 Washington Street

This site is currently developed as a golf course. The value of this land would make the cost of acquisition prohibitive. Additionally, the property is located along the southern border of the Town. This remote location does not provide evenly distributed ease of access for potential users of the facility.



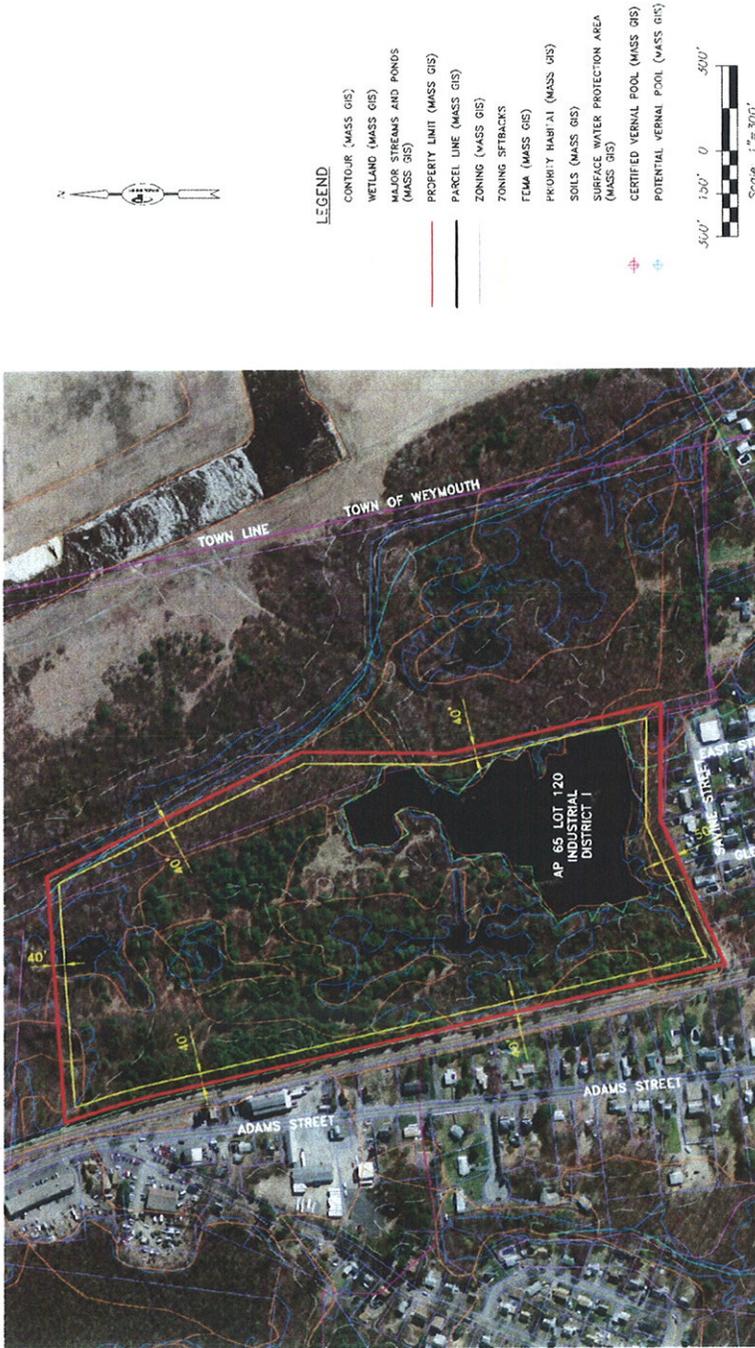
GIS Constraints - Frolio Middle School

164 Washington Street - AP 9, Lot 43
 Abington, Massachusetts

Site 24

0 Adams Street - AP 65, Lot 120

This site is located in the northeastern corner of the town. This non-central location does not provide evenly distributed ease of access for potential users of the facility. Additionally, access to the site is prevented by railroad tracks along the western property border.



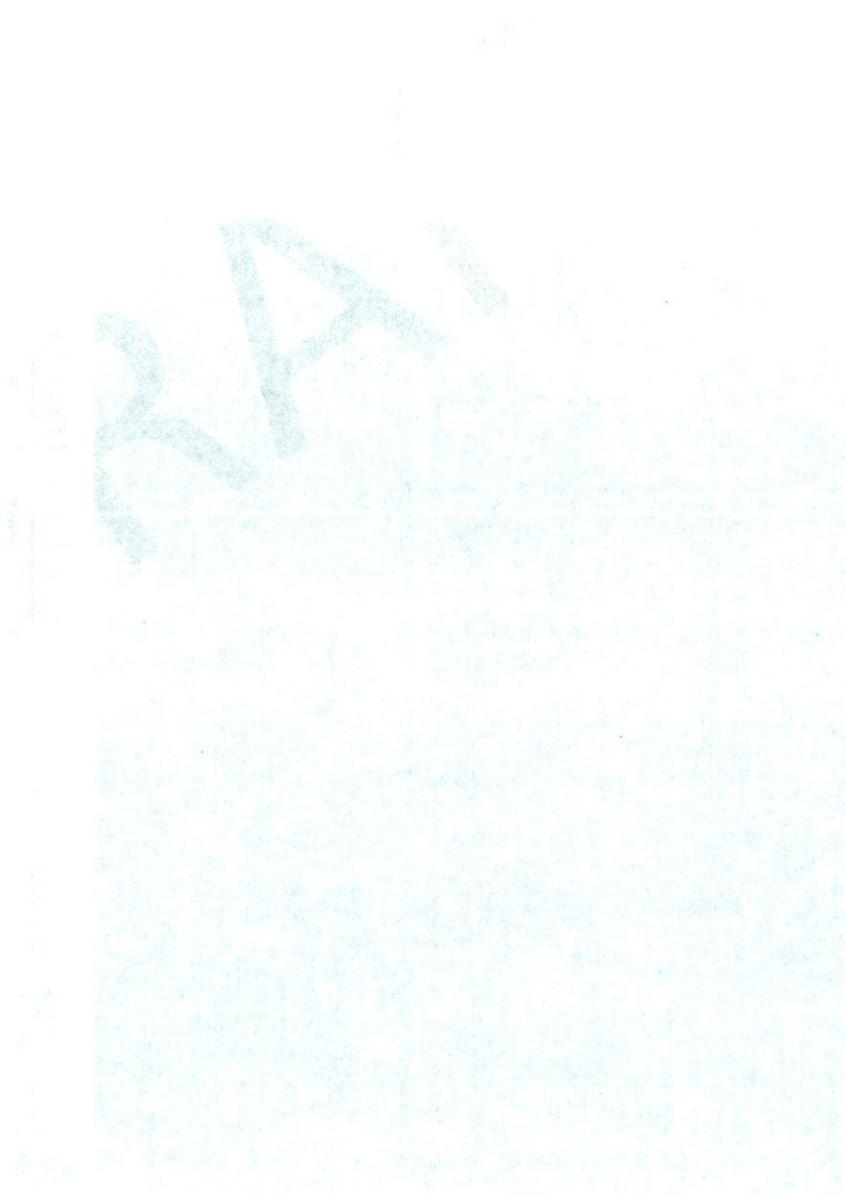
GIS Constraints - Frolio Middle School

0 Adams Street - AP 65, Lot 120
Abington, Massachusetts

Site 25

1071 Washington Street (Existing Frolio Middle School)

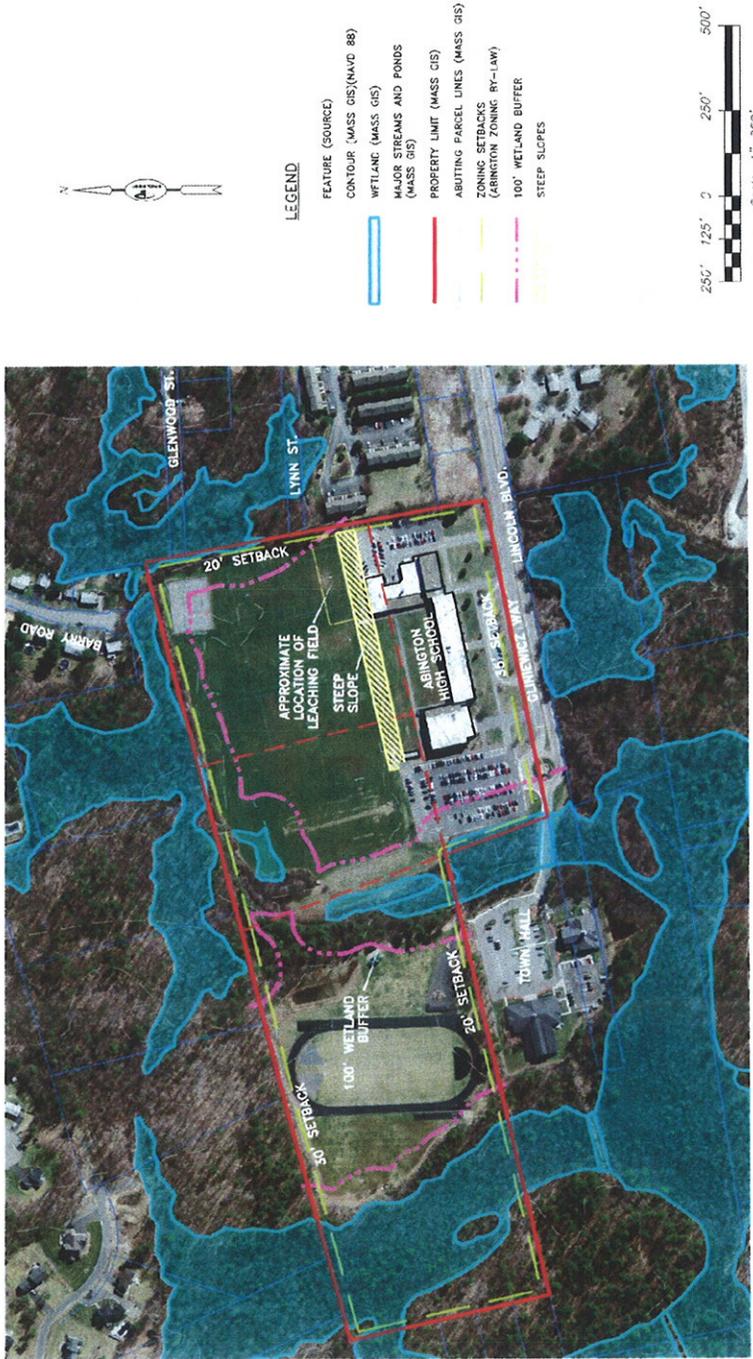
This site is currently being used for the existing Frolio Middle School. The memorial athletic fields located at the rear of the property occupy land owned partially by the School Department and the Soldiers, Sailors, and Marines Memorial and have limited protection from development other than recreational use. The available land owned by the School Department along with the recreation restriction does not provide sufficient area for the construction of a new facility while the existing school is in use.



existing conditions site plan of existing high school site

Site 5 Existing High School Property

Attached is a site plan indicating some of the initial site constraints described on the site. Additional details are described below.



Existing Conditions and Site Plan - Frolio Middle School

Abington High School - Site Analysis - Figure 1



Abington, Massachusetts

The existing high school Site (the Site) is located on approximately 41 acres of land owned by the Town of Abington School Department. The Site is accessible from the south via Lincoln Boulevard and Gliniewicz Way. Properties abutting the Site include the Abington Public Library and Town Hall to the southwest and woodlands and residential property to the north. There are commercial properties abutting to the south and east of the property along Route 18. The Site is currently developed and includes the Abington High School, fields, and a running track. The Site is furnished with paved parking areas, paved drives, and storage buildings. The Site is located on 4 parcels of land, Assessors Map 38, Block 38, Parcel Numbers 10, 11, 12, and 14, at 201 Gliniewicz Way.

The proposed Site design will need to take into consideration, and interact with, the existing school uses. Through construction phasing, planning, and coordination, the new school will be able to be constructed while all existing building uses and associated utilities remain available and able to operate in a safe and effective manner.

Natural Environment

Topography

The topography of the Site pitches gradually to the south of the property from the north. The highest elevation on site appears to be at the existing building and the lowest elevation at the north edge of the athletic fields. The grade drops steeply approximately 5 feet in grade into the existing athletic fields along their southern and western edges.

Soils

Existing soils were evaluated based on the USDA Natural Resource Conservation Services Web Soil Survey. In the existing high school and athletic field portion of the Site, soils primarily include Udorthents, loamy and wet substratum. These soils have moderate to slow permeability and typically have bedrock at greater than 80 inches below existing grade and groundwater at greater than 80 inches below existing grade. These soils are humanly altered and can include lands located on outwash plains and deltas. In the wooded areas of the Site, soils consist of Ridgebury fine sandy loam which is extremely stony and ranges from 2%-8% slope. The soils are typically poorly drained, bedrock is typically down 60 inches and the seasonal high groundwater is 1.5 feet below the ground surface. It is not anticipated that these soils would prevent some issues with development; however a majority of this soil type overlaps the wetland resource areas onsite which are not suitable for development anyway. Based on this preliminary review of onsite soil condition, it appears that the proposed development would be impacted significantly by the soils in the cleared and developed areas.

Wetlands

After review of the Massachusetts GIS layers, it does appear that there are a few wetlands located along the western property line in the undisturbed forested areas as well as the central portion of wooded area. If determined to be jurisdictional wetlands in an environmental review, these areas will have a minimum 100 foot regulatory buffer.

After review of the MASSGIS certified and potential vernal pools layers, the Site does not appear to have potential or certified vernal pools as defined by the Natural Heritage and Endangered Species Program (NHESP).

According to the Flood Insurance Rate Maps for Abington available through FEMA (Federal Emergency Management Agency), this Site is located entirely in Zone X. A Zone X is defined by FEMA as areas of 0.2% annual chance flood. There are no restrictions for development in the Zone X area.

Rare Species and Cultural Resources

Information regarding rare species was obtained from the MASSGIS Rare Species and Priority Habitat data layer showing data recorded by the NHESP in the State Registry. Review of this information indicates that there are no significant habitat areas within the Site.

Zoning Regulations

According to the “Zoning Map, Town of Abington, Massachusetts”, the Site is located in an area zoned Medium Density Residential (R-30). Municipal buildings including educational facilities require a special permit within a Zone R-30 according to Article V Use Regulations of the Zoning Regulations. Applicable sections of the Zoning Regulation indicate the following would control the development on this Site:

Medium Density Residential District:

- 30,000 sqft minimum area
- 110’ minimum lot width
- 110’ of frontage
- 35’ maximum height
- 25% maximum lot coverage (total of all impervious areas)
- 35’ front yard setback
- 30’ rear yard setback
- 20’ side yard setback

If the building height is anticipated to exceed the maximum height of 35’, a special permit will be required. Additionally, the maximum lot coverage is likely to exceed 25% and will require a special permit from the Planning Department.

The Site also falls within the Flood Plain and Wetlands Protection District overlay. Within this zone, applicants for building permits must apply for a special permit with the Conservation Commission.

The parking capacity requirements for schools are one space for every three seats of occupancy according to Article VIII of the Zoning Regulations.

Infrastructure

Roadways and Parking Lots

The boulevard that allows access to the Site runs along the south of the school from Bedford Street (Route 18) and has an eastbound and westbound component. There are 5 available entrances to the school along the westbound component, Gliniewicz Way. The boulevard ends at the west end with a traffic circle around a veterans memorial with exits for the town hall and library, a high school parking lot, and the eastbound component, Lincoln Boulevard. Bituminous sidewalk is located on either side of Gliniewicz Way and Lincoln. Travel speeds on Gliniewicz Way are posted as 20-mph with “slow” printed on the pavement.

There are multiple parking lots that service the existing high school on the Site. The westernmost lot, containing approximately 212 spaces, is designated for student use and the easternmost lot, containing approximately 75 spaces, is for staff use. There are 15 spaces along the front of the building designated for visitors. Granite and concrete curbing exists at the edges of some pavement within the Site.

Utilities

The following information was collected through communications with Jason Linn, the Facilities Manager for the High School; John Stone, the Superintendent of the Abington Sewer Department; and coordination with the Town of Abington.

Sewer

Sanitary waste from the existing high school is conveyed by gravity sewer mains to the sewer lines maintained by the Town of Abington. The connection is made to the building at the east side of the building. The line that services the school is an 8 inch line and the main on Route 18 is a 10 inch line. The Town of Abington pumps all of its sewer water to a treatment plant in Brockton. The school used to utilize a leach field on site to treat its wastewater before it was connected to the Town sewer. The leach field was located underneath the existing athletic fields.

Water

Hydrants and water service are located onsite. The Abington High School is serviced by water lines off of Gliniewicz Way. During design, a hydrant flow test will be required to determine available flow for fire suppression system design.

Drainage

There are onsite closed drainage systems for the parking lots which collect drainage in dry wells. Each storm grate represents its own dry well. The drainage infrastructure on Gliniewicz Way includes a 12 inch line and a 10 inch line. Portions of the onsite drainage on the athletic fields discharge to the wooded areas north of the Site. Stormwater does not appear to be treated for quality or controlled for quantity and peak flow before discharging the Site. The proposed design would incorporate low impact drainage design to treat for water quality and mitigate peak flows onsite.

Gas

National Grid is the supplier of natural gas to the Town of Abington. The high school is currently serviced by natural gas. There are 2 gas connections at the east side of the building. One connection services the kitchen and the other connection services the boiler and hot water.

Electric

Electric supply is above ground to a utility pole off of Gliniewicz Way. The service is transitioned to underground once it is onsite at a pole to the southeast of the building. The generator for the building is positioned below grade where it is transferred underground and connected to the building. The supplier of electricity for the Town of Abington is National Grid.