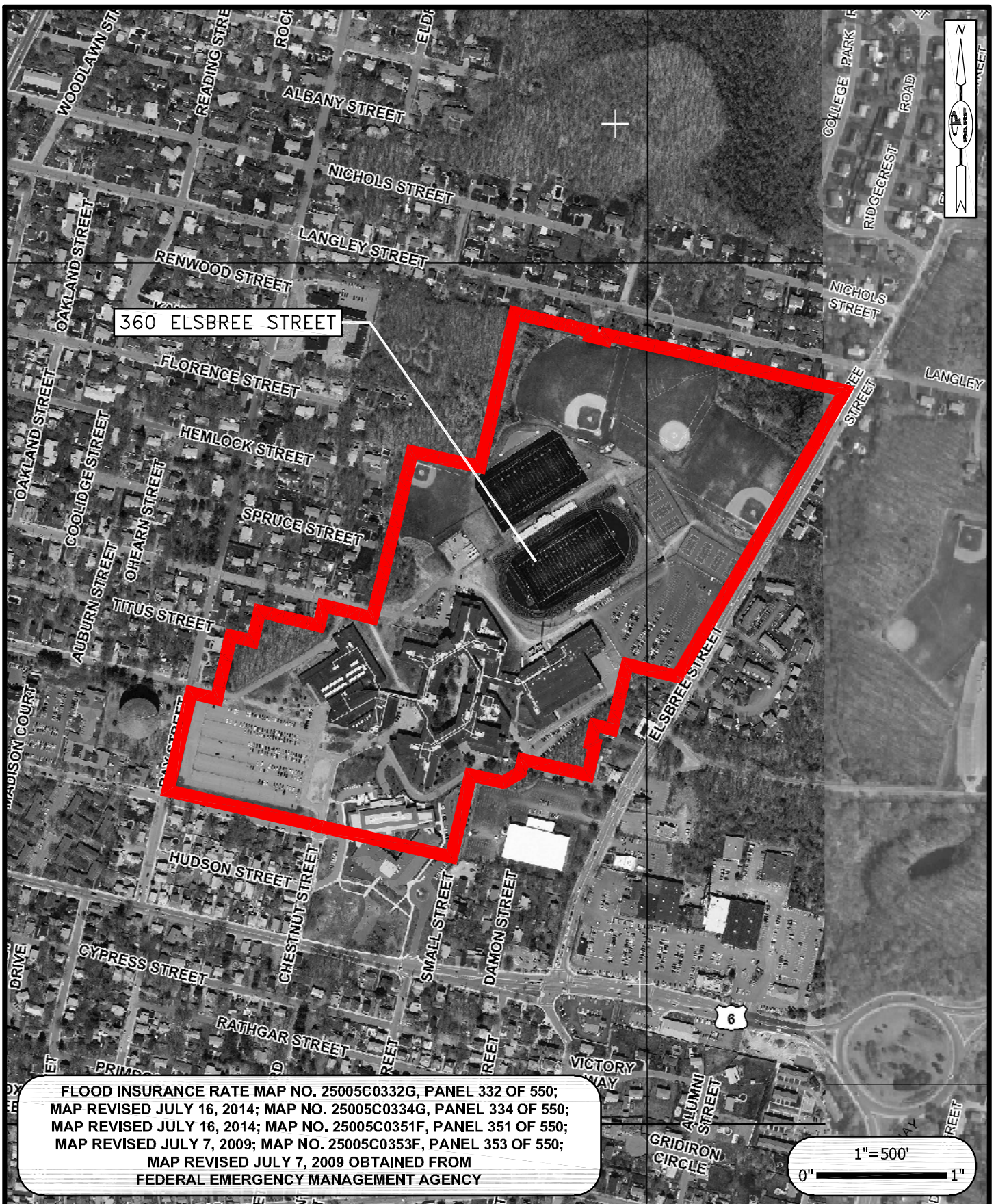


BMC DURFEE HIGH SCHOOL  
360 ELSBREE STREET  
FALL RIVER, MASSACHUSETTS

# HISTORIC USGS PLAN

MARCH 2017

FIGURE 3



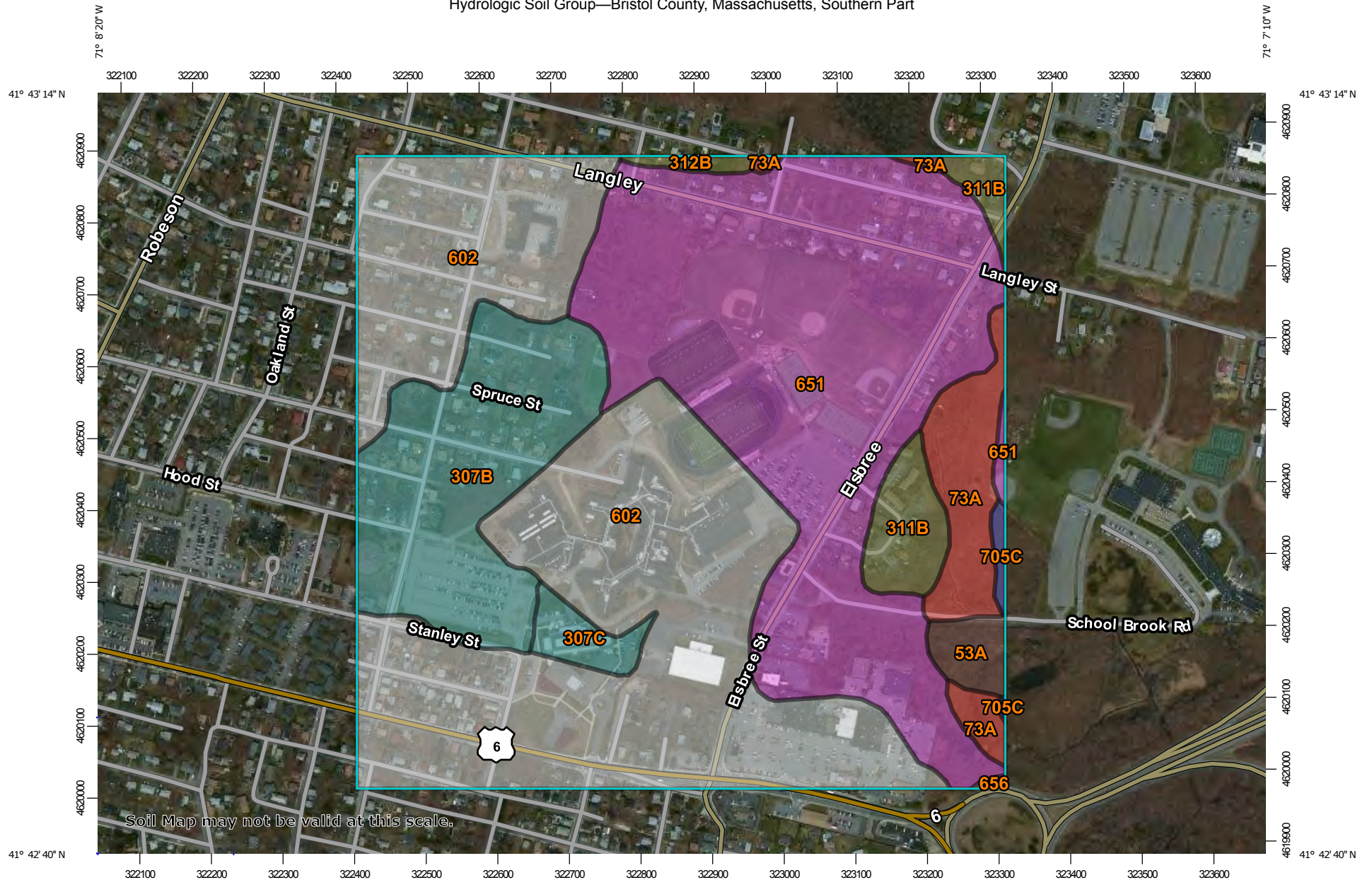
BMC DURFEE HIGH SCHOOL  
 360 ELSBREE STREET  
 FALL RIVER, MASSACHUSETTS

FEMA  
 FLOOD  
 PLAN

MARCH 2017

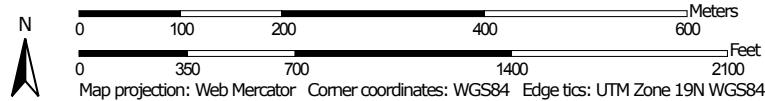
FIGURE 4

# Hydrologic Soil Group—Bristol County, Massachusetts, Southern Part



Soil Map may not be valid at this scale.

Map Scale: 1:7,460 if printed on A landscape (11" x 8.5") sheet.




**Natural Resources  
Conservation Service**

Web Soil Survey  
National Cooperative Soil Survey

2/27/2017  
Page 1 of 4

## MAP LEGEND

### Area of Interest (AOI)









 Area of Interest (AOI)

### Soils

#### Soil Rating Polygons





 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available

#### Soil Rating Lines

 A  
 A/D  
 B  
 B/D  
 C  
 C/D  
 D  
 Not rated or not available

#### Soil Rating Points






 A  
 A/D  
 B  
 B/D

 C  
 C/D  
 D  
 Not rated or not available


### Water Features

 Streams and Canals

### Transportation

 Rails  
 Interstate Highways  
 US Routes  
 Major Roads  
 Local Roads

### Background

 Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL:  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Bristol County, Massachusetts, Southern Part  
 Survey Area Data: Version 10, Sep 14, 2016

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 8, 2011—Apr 9, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — Bristol County, Massachusetts, Southern Part (MA603)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
53A	Freetown muck, ponded, 0 to 1 percent slopes	B/D	2.5	1.2%
73A	Whitman fine sandy loam, 0 to 3 percent slopes, extremely stony	D	9.4	4.7%
307B	Paxton fine sandy loam, 0 to 8 percent slopes, extremely stony	C	25.5	12.9%
307C	Paxton fine sandy loam, 8 to 15 percent slopes, extremely stony	C	2.7	1.4%
311B	Woodbridge fine sandy loam, 0 to 8 percent slopes, very stony	C/D	6.2	3.1%
312B	Woodbridge fine sandy loam, 0 to 8 percent slopes, extremely stony	C/D	0.9	0.4%
602	Urban land		81.3	41.1%
651	Udorthents, smoothed	A	68.6	34.7%
656	Udorthents - Urban land complex		0.1	0.1%
705C	Charlton-Paxton complex, 8 to 15 percent slopes, very rocky	B	0.7	0.3%
<b>Totals for Area of Interest</b>			<b>197.8</b>	<b>100.0%</b>

## Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

## Rating Options

*Aggregation Method:* Dominant Condition

*Component Percent Cutoff:* None Specified

*Tie-break Rule:* Higher



Disclaimer: This information is for informational purposes only and is not intended to be used for medical advice or diagnosis. Always consult your healthcare provider for any medical concerns.

Total AC/HA: 63.86000	Total SF/SM: 2781741.50
-----------------------	-------------------------

**TOTAL ASSESSED: 32,000,900**  
199121

Parcel LUC: 934	CITY ED	Prime NB Desc	CI 08 SF
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## USER DEFINED

Parcel LUC: 934	CITY ED	Prime NB Desc CI 08 SF	Total
			6,022

## ASR Map:

Fairchild Electronics	Circuit	Timing and Logic ICs	0.00
			0.00

--	--

Parcel LUC1934	CITY ED	Prime NB Desc Cl 08 SF		
Total:		6,024,460		
Sp1 Credit			Total:	6.0

---

Total AC/H/A: 63.86000	Total SF/Sq: 278174.50	Parcel LUC: 934	CITY ED	Prime NB Desc: C1 08 SF	Total: 6,024,460	Sol Credit	Total: 6,024,500
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## BATH FEATURES

Type: 68 - SCHOOL			Full Bath			Rating:	
Sty/Ht: 3 - 3			A Bath:			Rating:	
(Liv) Units: 1		Total: 1	3/4 Bath:			Rating:	
Foundation: 1 - CONCRETE			A 3QBth			Rating:	
Frame: 4 - FIREPF STL			1/2 Bath: 15			Rating: AVERAGE	
Prime Wall: 24 - REIN CONCR			A-HBth:			Rating:	
Sec Wall:			Ch/Fix: 21			Rating: AVERAGE	
Roof Struct: 4 - FLAT			OTHER FEATURES				
Roof Cover: 04 - TAR+GRAVEL			Kits: 1				Rating: GOOD
Color:			A Kits:				Rating:
View / Desir:			Fpl:				Rating:
			WS/Fur:				Rating:
GENERAL INFORMATION			CONDO INFORMATION				
Grade: C - AVERAGE			Location:				
Year Blt: 1978		Eff Yr Blt:	Total Units:				
Alt LUC:		Alt %:	Floor:				
Jurisdct:		Fact:	% Own:				
Const Mod:			Name:				
Lump Sum Adj:							

CW/P-10-0001, 2 3 1/-33 3/740 R11 L51 56 57 58  
60 63-4, FY2008 ALSO C/W R-11-19, 25, 28, 29, &  
R-12-1 THRU 28 & R-14-0002. FY2009  
REMAINED AS P-28-0001.

1st Res Grid	Desc:	# Units
Level	FY LR DR D K FR RR BR PB HB L C	
Other		
Upper		
Lvl 2		
Lvl 1		
Lower		
Totals	Rms: BRs: Baths: HB	15

### RES BREAKDOWN

	No Unit	RMS	BRS	FL
Exterior:				
Interior:				
Additions:				
Kitchen:				
Baths:				
Plumbing:				
Electric:				
Heating:				
General:				
Totals				

## DEPRECIATION

Avy H/V - STD	Phys Cond: AV - Average	29.1 %
Prim Int Wall: C - CONC BLK	Functional:	%
Sec Int Wall:	Economic:	%
Partition:	Special:	%
Prim Floors:	Override:	%
Sec Floors: 12 - CONCRET	50 %	
	Total:	29.6 %

## CALC SUMMARY

Nuclear:			
Baths:			
Plumbing:			
Electric:			
Heating:			
General:			
		<b>Totals</b>	

## COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price
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SUB AREA	
Code	
FTI	40T

				Area	USD	Type	to
FRL	1ST FLOOR	294,748	57,250	16,843,401			
SFL	2ND FLOOR	145,848	57,250	8,337,857			
TFL	3RD FLOOR	101,218	54,390	5,504,897			
UFL	UPPR FLOOR	93,074	51,520	4,796,553			
CTY	COURTYARD	31,233	7,460	233,143			
OPP	OPEN PORCH	8,066	10,100	81,404			
CNP	CANOPY	281	32,860	9,233			
<b>Net Sketched Area:</b>		<b>673,752</b>	<b>Total:</b>	<b>35,807,488</b>			
<b>Size Ad</b>	<b>634182 Gross Area</b>	<b>673752 FinArea</b>		<b>634182</b>			

## SUB AREA DETAIL

	Sub	%	Descrip	%	Qu	#
	Area	Usbl	Type	Ten		
7						
6						
5						
4						
3						
2						
1						

## SPEC FEATURES/YARD ITEMS

Code	Description	A/YS	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	L/C	Fact	NR Fa	App. Value	JCo'd J-Fact	Juris. Value
61	ELEV-PAS	M S	13		A	AV	1978	19,833.33 B	29.6	934	934			41,900		41,900
85	PAVING	D Y	1180000		A	AV	1978	1.01 T	50	934	934			90,800		90,800
27	TENNIS C	D Y	18		A	AV	1975	8,250.00 M	0	934	934			66,000		66,000
MN	TRACK W/LGTS	D Y	11		A	AV	1975	55,000.00 M	0	934	934			55,000		55,000
88	FENCE-6	D Y	12580		A	AV	1975	7.00 T	50	934	934			9,000		9,000
02	SHED/FR	D Y	16x8		G	GD	2007	10.48 T	9.6	934	934			500		500
MN	bleachers	D S	21		A	AV	2007	125,000.00 T	8	934	934			230,000		230,000
02	SHED/FR	D Y	118x30		G	GD	2007	6.57 T	9.6	934	934			3,200		3,200
23	BATH HSE	D Y	216 x 45		V	VG	1978	54.38 T	17.5	934	934			64,600		64,600

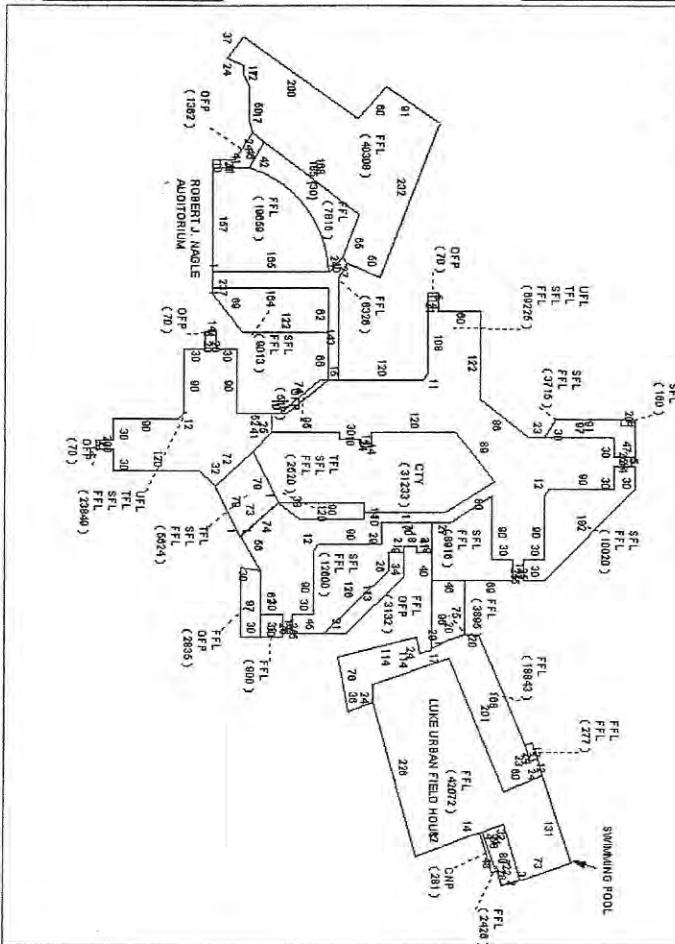
PARCEL ID P-28-0007

Appr. Value	JCOB U-Fact	Juris. Value
41,900		41,900
90,800		90,800
66,000		66,000
55,000		55,000
9,000		9,000
500		500
230,000		230,000
3,200		3,200
64,600		64,600

IMAGE

**AssessPro** Patriot Properties, Inc.

### SKETCH





GARDEN

CYPRESS

CHARLOTTE

MOORE

ESPEREE

ALUMNI WAY

PRESIDENT AVENUE

DAMON

SMALL

CHESTNUT

HUDSON

STANLEY

HOOD

TITUS

TITUS

WEETAMOE

SPRUCE

HEMLOCK

FLORENCE

KANE

RENNWOOD

RAY

LANGLEY

NICHOLS

MARKET

LANGLEY

ALBANY

P-28-1



# SITE 2: DURO MILLS

## Site Development Requirements

### **206 GLOBAL MILLS AVENUE**

Duro Mills consists of two buildings constructed in 1881 and 1885 respectively. The site is located at 206 Globe Mills Avenue, Fall River, MA on 6.0± acres of land according to the City of Fall River ("City") Assessors Database (Parcels H-20-8 and H-20-22). The site is accessible via one two-way driveway off Globe Mills Avenue and via Stafford Road. The site is furnished with the existing buildings, and parking facilities.

The site is bounded by The Matthew J Kuss Middle School and facilities to the west and north, industrial properties to the northeast and southwest, and wooded property to the south and east. The Mill Buildings on the site are inventoried historical buildings on MACRIS and the Fall River Register of Significant Structures, and on the national register.

### **Zoning Regulations**

According to the "Zoning Map of the City of Fall River" updated March, 1 2013, the Site is located in an area zoned Waterfront and Transit Oriented Development district (WTOD) and in a Housing Development Overlay District (HD-2). Educational facilities are not allowed within a zone WTOD by right and would need a variance from the ZBA according to "the Revised Ordinances of the City of Fall River: Chapter 86" with Amendments through July, 2013. The Zoning Ordinance indicates the following would control the development on this Site:

### **WTOD – Waterfront and Transit Oriented Development District:**

- 2,500 square feet minimum area
- 50 feet minimum lot frontage
- 10 feet minimum front yard setback
- 10 feet minimum side yard setback
- 10 feet minimum rear yard setback
- 6 stories or 80-feet maximum building height (whichever is greater)
- 80% maximum lot area coverage\*

\*defined as all impervious area

The parking capacity requirement for an educational facility are one (1) space for each employee per shift and one (1) loading space each building. The Institute for Transportation Engineers (ITE) develops a Parking Generation informational report provides data for estimated parking demand at various land uses. The 4th edition of the Parking Generation report suggests 0.23 vehicles per student for High Schools in Suburban Areas (Land Use 530).

### **Natural Environment**

**Topography:** The topography of the site generally pitches gradually downgradient from the west to the east. The highest elevations on site appear to be at the northeast corner of the property at elevation 85ft. The lowest elevation appears to be at the northwest corner of the property at elevation 55ft. Record topographic maps (dated 1938 through present day) indicate that little development has occurred on site since the construction of the mills and parking lots.

**Soils:** Existing soils were evaluated based on the USDA Natural Resource Conservation Services Web Soil Survey. Below is a description of the soils that are shown throughout the site as shown on the web soil survey (attached NRCS Soil Survey).

The entire site consists of unrated urban land (Map Unit 602). This map unit consists of areas where 85 percent or more of the land is covered with impervious surfaces, such as buildings, pavement, etc.

Based on the web soil survey information it is anticipated that soils may limit infiltration for stormwater due to existing fill material in regards to future development. Stormwater detention may alternatively be considered.

For purposes of building foundations and future site improvements, we would recommend additional site specific soil boring and test pit investigation program.

**Wetlands:** After review of the Massachusetts GIS data layers (MassGIS) it does not appear that there are wetlands located on site. However, there are wetlands located south of Globe Mills Avenue. If determined to be jurisdictional wetlands, these areas will have a minimum 100-foot regulatory buffer zone which overlap the south of the site. The wetland will prohibit proposed work, however a request for determination through the Conservation Commission will be required.

After review of the MassGIS layers, the Site does not appear to have and Critical Resources including Aquifers or potential or certified vernal pools as defined by the Natural Heritage and Endangered Species Program (NHESP). If it is determined in an environmental review that a vernal pool exists on the site the local regulations require a 100-foot No-Disturbance Zone around the upland area edge or the wetland area edge that encompasses the vernal pool.

According to the Flood Insurance Rate Maps available through FEMA (Federal Emergency Management Agency), this Site is located entirely outside of the 0.2% annual chance flood (Figure 4). There are no restrictions for development.

**Rare Species & 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 known significant habitat areas within the Site.

### **Infrastructure**

**Roadways and Parking Lots:** The site is accessible via one two-way driveway off Globe Mills Avenue and via Stafford Road. All adjacent streets are under the city's jurisdiction and therefore will require only local approval for future modifications.

The site is furnished with the existing buildings, and parking facilities. The existing paved parking and drives are in fair to good condition with minor surface cracks and pavement patches. Future development and parking options could look to Globe Mills Avenue for potential entrance/exit locations for vehicles. We would recommend a traffic impact analysis to further assess existing traffic patterns, existing roadways, and the future development.

Future development design considerations will likely require vehicular travel lanes surrounding the perimeter of the school to assist in access as well as provide emergency routes to each face of the school building.

**Utilities:** The existing conditions utility information was collected through site visits, communications with the Engineering Department, and the Water Department. Future development options would require that the existing utilities be located and included in design plans.

**Sewer:** A record plan titled "Riverview Condominiums" by "Gorodetsky Engineering, LLC" dated July 2004 was available at the City to review. There is a 66-inch gravity sewer main in Drapers Avenue west of the site. There are not available record drawings showing the service connection to the mill building, however, sanitary waste from the building is likely conveyed via gravity sewer to the sewer main as there is a sewer manhole in Globe Mills Avenue along the frontage of the property.

During design, the capacity of the existing sewer line will need to be evaluated to determine if it can handle the increased use or the need to provide an additional connection to the sewer main in Globe Mills Avenue. Future development would require PVC sewer services and the installation of an exterior grease trap to service cafeteria functions.

**Water:** A record drawing of Fall River Section 32 was available at the Fall River Water Works for review. An 8-inch cement lined water main constructed in 1971 is located in Globe Mills Avenue. There are two fire hydrants located on Globe Mills Avenue and two on site fire hydrants serviced by Globe Mills Avenue. Record City information does not show the mill building of a water service to the building. However, there are two gate valves located on Globe Mills Avenue at the respective south west corners of the two properties.

During design, a hydrant flow test will be required to determine available flow

for fire suppression system design. The existing service should be evaluated for use in the proposed system as well as need for an additional service for fire suppression. If future developments plans include that the building is to be demolished and relocated, the service could be evaluated for feasibility for reuse. However, it is likely that it would require replacement.

**Drainage:** Record drainage plans were not available at the City to review and Fall River GIS does not provide utility information. However, it appears that the on-site drainage system ties into the municipal drainage system in Globe Mills Avenue. The stormwater ultimately discharges west into Mt. Hope Bay.

On site drainage appears to be collected from impervious and pervious surfaces via catch basins and conveyed via a closed drainage system to the discharge point in Globe Mills Avenue. It appears that the stormwater system is receiving little treatment in regards to TSS removal. During design, it should be evaluated if the current drainage pattern should be maintained or rerouted. This would also include review of an existing conditions plan that will be provided by a surveyor in a later phase of this project. The existing on-site drainage system should be evaluated for integrity and for re-use in future development conditions.

The future development drainage design will need to be re-designed to meet the Massachusetts Department of Environmental Protection stormwater standards, the City of Fall River Stormwater and Construction Site Management Ordinance and will require quantity and quality mitigation measures.

**Gas:** Liberty Utilities is the supplier of natural gas to the City of Fall River. Record drawings depicting the gas

connections were not available. Future development options would require that the existing system be located and analyzed for capacity. Coordination should occur with Liberty Utilities regarding any service improvements.

**Electric:** National Grid is the supplier of electricity to the City of Fall River. Record drawings depicting the gas connections were not available. Future development options would require that the existing system be located and analyzed for capacity. Coordination should occur with National Grid regarding any service improvements.

### **Summary**

The entire Duro Mills site is roughly equivalent to the existing Durfee High School building and therefore development would need to consider an additional site for athletic facilities. 110 Chase Street is an available commercial mill separated from the site by Bay Street. The physical separation does not allow for a connected school campus. Additionally, with a total of 16 acres of buildable area, this site does not provide adequate area to effectively house a new high school with all the necessary facilities.

The former use of the sites as a textile mills increases the risk of the potential for unknown contamination. Known and potential unknown sources of contamination increase the cost of development on the site. In addition to investigations during design, there will likely be an increased cost during construction of due to required export of soils and groundwater management. In addition to known costs, there is the risk of unknown costs if conditions are encountered during construction.

In addition to special constraints, design considerations should include stormwater practices consistent with onsite soils. Development should include recognition of the wetland resource areas adjacent to the site and consideration for their buffer zones in regards to development. We would recommend these considerations be made part of future development options. However, we do not believe this is a viable site for future school development.

### **110 CHASE STREET**

Duro Mills Site B consists of one building constructed in 1845. The site is located at 110 Chase Street, Fall River, MA on 10.9± acres of land according to the City of Fall River ("City") Assessors Database (Parcel H-03-0001). The site is accessible via one two-way driveway off Chase Street Avenue and via Beacon Street. The site is furnished with the existing buildings, and parking facilities.

The site is bounded by residential properties to the north,

northeast, and south. The Site is bound to the southeast and to the northwest by vacant wooded lot. The mill buildings on the site are not inventoried as historical by MACRIS, the Fall River Register of Significant Structures, or on the national register.

### **Zoning Regulations**

According to the "Zoning Map of the City of Fall River" updated March, 1 2013, the Site is located in an area zoned Commercial Mill District (CMD) and in a Housing Development Overlay District (HD-2). Educational facilities are noted to be allowed within a zone CMD according to "the Revised Ordinances of the City of Fall River: Chapter 86" with Amendments through July, 2013. The Zoning Ordinance indicates the following would control the development on this Site:

CMD – Commercial Mill District:

- 10,000 square feet minimum area
- 100 feet minimum lot frontage
- 10 feet minimum front yard setback
- 10 feet minimum side yard setback
- 10 feet minimum rear yard setback
- 6 stories or 80-feet maximum building height (whichever is greater)
- No restriction for maximum lot area coverage

The parking capacity requirement for an educational facility are one (1) space for each employee per shift and one (1) loading space each building. The Institute for Transportation Engineers (ITE) develops a Parking Generation informational report provides data for estimated parking demand at various land uses. The 4th edition of the Parking Generation report suggests 0.23 vehicles per student for High Schools in Suburban Areas (Land Use 530).

### **Natural Environment**

**Topography:** The topography of the site generally pitches gradually downgradient from the southeast to the west. The highest elevations on site appear to be at the southeast corner of the property at elevation 130ft. The lowest elevation appears to be at the west corner of the property at elevation 80ft. Record topographic maps (dated 1941) indicate that a low lying pond once existed on the west side of the site with the most recent topographic maps (dated 1979 and 85) indicating that this area has since been developed and mostly filled.

**Soils:** Existing soils were evaluated based on the USDA Natural Resource Conservation Services Web Soil Survey. Below is a description of the soils that are shown throughout the site as shown on the web soil survey (attached NRCS Soil Survey).

The entire site consists of unrated urban land (Map Unit 602). This map unit consists of areas where 85 percent or more of the land is

covered with impervious surfaces, such as buildings, pavement, etc.

Based on the web soil survey information it is anticipated that soils may limit infiltration for stormwater due to existing fill material in regards to future development. Stormwater detention may alternatively be considered.

For purposes of building foundations and future site improvements, we would recommend additional site specific soil boring and test pit investigation program.

**Wetlands:** After review of the Massachusetts GIS data layers (MassGIS) it does not appear that there are wetlands located on site. However, there are wetlands located northwest of the site. If determined to be jurisdictional wetlands, these areas will have a minimum 100-foot regulatory buffer zone which overlaps the west of the site. The wetland will prohibit proposed work; however a request for determination through the Conservation Commission will be required.

After review of the MassGIS layers, the Site does not appear to have and Critical Resources including Aquifers or potential or certified vernal pools as defined by the Natural Heritage and Endangered Species Program (NHESP). If it is determined in an environmental review that a vernal pool exists on the site the local regulations require a 100-foot No-Disturbance Zone around the upland area edge or the wetland area edge that encompasses the vernal pool.

According to the Flood Insurance Rate Maps available through FEMA (Federal Emergency Management Agency), this Site is located entirely outside of the 0.2% annual chance flood (Figure 4). There are no restrictions for development.

**Rare Species & 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 known significant habitat areas within the Site.

**Infrastructure**

**Roadways and Parking Lots:** The site is accessible via one two-way driveway off Chase Street Avenue and via Beacon Street. All adjacent streets are under the city's jurisdiction and therefore will require only local approval for future modifications.

The site is furnished with the existing buildings, and parking facilities. The existing paved parking and drives are in fair to poor condition with surface cracks and pavement patches. Future development and parking options could look to Chase Street and Beacon Street for potential entrance/exit locations for vehicles. We would recommend a traffic impact analysis to further assess existing traffic patterns, existing roadways, and the future development.

Future development design considerations will likely require vehicular travel lanes surrounding the perimeter of the school to assist in access as well as provide emergency routes to each face of the school building.

**Utilities:** The existing conditions utility information was collected through site visits, communications with the Engineering Department, and the Water Department. Future development options would require that the existing utilities be located and included in design plans.

**Sewer:** A record drawing titled "Chase Street Sewer" was available at the City

to review. Record plans were not available at the City to review. The record drawing shows the sewer main in Chase Street is a 15-inch vitrified clay pipe constructed in 1939-1940 flowing northwest from Globe Street to Bay Street. There are not available record drawings showing the service connection to the mill building, however, sanitary waste from the building is likely conveyed via gravity sewer to the sewer main as there is a sewer manhole in Globe Mills Avenue along the frontage of the property.

During design, the capacity of the existing sewer line will need to be evaluated to determine if it can handle the increased use or the need to provide an additional connection to the sewer main in Globe Mills Avenue. Future development would require PVC sewer services and the installation of an exterior grease trap to service cafeteria functions.

**Water:** A record drawing of Fall River Section 32 was available at the Fall River Water Works for review. A 12-inch water main is located in Chase Street. There are three fire hydrants located on Chase Street along the frontage of the site, but none located on Beacon Street or visible on site. Record City information shows an 8-inch domestic water service to the west side of the building a 12-inch domestic water service to the east side of the building and the rear building. Record drawings also show a fire service to the east side of the building and the rear building. The two domestic lines are serviced off the main in Chase Street. The fire line is serviced off Globe Street.

During design, a hydrant flow test will be required to determine available flow for fire suppression system design. The existing service should be evaluated for use in the proposed system as well as need for an additional service for fire suppression. If future developments plans include that the building is to be demolished and relocated, the service could be evaluated for feasibility for reuse. However, it is likely that it would require replacement.

**Drainage:** Record drainage plans were not available at the City to review and Fall River GIS does not provide utility information. However, it appears that the on-site drainage system ties into the municipal drainage system in Chase Street. The stormwater ultimately discharges west into Mt. Hope Bay.

On site drainage appears to be collected from impervious and pervious surfaces via catch basins and conveyed via a closed drainage system to the discharge point in Globe Mills Avenue. It appears that the stormwater system is receiving little treatment in regards to TSS removal. During design, it should be evaluated if the current drainage pattern should be maintained or rerouted. This would also include review of an existing conditions plan that will be provided by a surveyor in a later phase of this project. The existing on-site drainage system should be evaluated for integrity

and for re-use in future development conditions.

The future development drainage design will need to be re-designed to meet the Massachusetts Department of Environmental Protection stormwater standards, the City of Fall River Stormwater and Construction Site Management Ordinance and will require quantity and quality mitigation measures.

**Gas:** Liberty Utilities is the supplier of natural gas to the City of Fall River. Record drawings depicting the gas connections were not available. Future development options would require that the existing system be located and analyzed for capacity. Coordination should occur with Liberty Utilities regarding any service improvements.

**Electric:** National Grid is the supplier of electricity to the City of Fall River. Record drawings depicting the gas connections were not available. Future development options would require that the existing system be located and analyzed for capacity. Coordination should occur with National Grid regarding any service improvements.

### **Summary**

Due to their small size, the Duro Mills sites located at 110 Chase Street and 206 Globe Mills Avenue are considered in conjunction. The physical separation between the sites does not allow for a connected school campus. Additionally, with a total of 16 acres of buildable area, this site does not provide adequate area to effectively house a new high school with all the necessary facilities.

The site at 110 Chase Street has two mapped Activity & Use Limitations due to reported No. 6 fuel oil spills. The reported contaminant releases have been investigated and remediated over the course of around 30 years. Although treatment has been conducted on the site, there is likely residual contamination that would need to be addressed prior to the use of the site as a school. Additionally, the two reported releases may not be the only sources of contamination on the site. Investigations on the site have been conducted specifically related to the two spills, but a comprehensive review of the site has not been conducted. The former use of the sites as a textile mill increases the risk of the potential for unknown contamination.

Known and potential unknown sources of contamination increase the cost of development on the site. In addition to investigations during design, there will likely be an increased cost during construction of due to required export of soils and groundwater management. In addition to known costs, there is the risk of unknown costs if conditions are encountered during construction.

In addition to special constraints, design considerations

should include stormwater practices consistent with onsite soils considering contamination. Development should include recognition of the wetland resource areas adjacent to the site and consideration for their buffer zones in regards to development. We would recommend these considerations be made part of future development options. However, we do not believe this is a viable site for future school development.