

NORTH ELEMENTARY SCHOOL

Name of School: NORTH ELEMENTARY SCHOOL

Address: 46 Waterville Street
Grafton, Massachusetts 01536

Name of Owner: Town of Grafton

Grade Levels Served: K, 1,

Student Population: 336 School Year 2005 — 06

Years in Service: 48

Year Constructed: 1957 Designer: Hugh Stubbins and Associates

Additions: 1975 Designer: Hughes and McCarthy

Existing Drawings: Drawings are available at the office

INVENTORY OF EDUCATIONAL SPACE:

Description (in Regulations) Number Square Feet Location (B, G, U)

BASIC EDUCATIONAL SPACE Pre-Kindergarten (1200-1300):

Kindergarten (1200-1300): 2,430 sf G

General Class (900-1000): 15 13,330 sf G

Art (1000-1200): 900 sf G

Music Rooms (1000-1200): 920 sf G

 Ensemble (up to 200):

 Practice (72-130): 100 sf G

Science/Computer (1000-1200):

Shops (1500-1800):

Homemaking (1200-1400):

Media Center/Library (1800-3000): 2,835 sf G

Physical Education (1800-3000): 4,060 sf G

Special Needs (as needed): 710 sf G

Remedial (as needed): 140 sf G

Collaborative (as needed):

Subtotal - Basic Educational Space: 25,425 sf

MISC. EDUCATIONAL SPACE Cafeteria

Cafetorium (Note 1): 2205 sf G

Stage: Guidance (as needed):

Office:

 Counseling:

 Waiting:

Health Suite: Office: 190 sf G

Examining Room:

Rest Areas:

Kitchen (Note 2): 755 sf G

Administration: Principal: 205 sf G

Asst. Principal:

General Office: 205 sf G
Conference:
Other (up to 800):

Planning Room:
Teacher Dining Room: 395 sf G
Auditorium (Note 3):
Physical Education: Lockers: 760 sf G
Storage: 480 sf G
Subtotal - Misc. Educational Space: 5,195 sf
TOTAL - Educational Space: 30,620 sf

CONSTRUCTION CLASSIFICATION DATA:

Construction Type: (from State Building Code)
Original Building: 3B or 5B (indeterminate) Combustible, unprotected, interior masonry bearing wall, exposed perimeter steel columns
Addition 1: 3B or 5B (indeterminate) Combustible, unprotected, interior masonry bearing wall, exposed perimeter steel columns
Addition 2:
Occupancy Group: E - Educational
Area Sub-Basement:
Basement:
Ground Floor: 24,369 GSF +18,140GSF Addition
Upper Floors – 2nd:
Upper Floors – 3rd :
Total: 42,509 GSF

Height # of Stories
Height/Stories:
Original Building: 9'-10" at Classrooms, 21' at Cafeteria
Addition 1: 20' at peak of new media room, 26' at peak of new Gym
Addition 2:

SITE DATA:

Description
Land Used: 20% North Elementary; 15% Athletic Fields; 20% Wetlands; 45% Woodlands
Lot Area: 20.9 acres + 10.5 acres (adjacent municipal land, available in 2010)=31. acres
Topography: Flat at school, undulating woodlands, intermittent stream running north to south on eastern side of property.

Wetlands: Adjacent to stream and to the south of site.

Size: Material: Source: Date Installed Conditions
Utilities –Sanitary: 5,400SF &

2,000SF

Leaching Field 1975 Plans Note

Water: 6" CLDI Town Engineer

Electricity: Overhead

Gas: None

Oil Tank: (1) 6,000 gallon

(1) 3,000 gallon

Single wall steel Custodian Unknown Unknown

Note

Storm Water Management:

CBs without hoods Site Visit & 1975 Plans

Note

Athletic Fields – Field 1: 12,000 SF Grass Site Visit & 1975

Field 2: 10,000 SF Grass Site Visit & 1975

Field 3: None

Track: None

Tennis Courts: None

Basketball Courts: 2,500 SF Bit. Conc. Site Visit & 1975 Plans

Playground/Total Lot: 5,000 SF

Type: Source Date Installed Conditions

Site Lighting: Yes Site Visit

Fire Hydrant: Hydrant Site Visit

Spaces Material Date Installed Conditions

Parking – Lot 1/2/3: 30/27 Bit. Conc. 2; Note

Bus Drop/Pick-Up Area: 165' Bit. Conc.

Parent Drop/Pick-Up Area: None

Loading & Service Dock Bit. Conc.

Signage: Yes

Trash Management Area:

PROVISIONS FOR ACCESSIBILITY:

Exterior – Accessible Route

Width Material Conditions

Curb Cuts: Vertical Granite Curb at Building / Bit.

Conc. Berm along access drive

Walkways: Concrete at Building/ Bituminous Concrete along access drive

Ramps: Concrete

Parking: Spaces Bituminous Concrete

SITE NOTES:

1. Larger leaching field in use prior to 1975 plans; smaller leaching field constructed due to 1975 plans. Due to the age of the systems failure could occur in the future. Connection to existing municipal sewer system (15" PVC) in Waterville Street is possible, but will likely require a pump station.
2. Drainage from the rear of the school collects in a manhole beneath the

athletic fields to the east of the school and then outlet far to the southeast near the intermittent stream. Drainage from the front of the school collects in a manhole to southeast of the school in a manhole, which outlets into the wetlands to the south of the site.

3. Significant transverse, longitudinal and alligator cracking. Edge of pavement along the access drive has eroded due to lack of curbs or berms.

4. The 3,000 gallon oil tank located at the east side of the building is believed to be original to the building (1957). It has been retrofitted with overfill and overspill devices in the early 90's. It does not have cathodic protection and has not been "tightness" tested since the early 90's. The 6,000 gallon tank was installed 20 years ago. It has also been retrofitted and has not been "tightness" tested since the early 90's. Based on their ages and the lack of cathodic protection and leak detection systems these tanks have reached their life expectancy. As a minimum "tightness" testing should be carried out.

BUILDING SYSTEMS & ASSEMBLIES OR ORIGINAL BUILDINGS:

Structure Material Remarks Conditions

Foundation System: 8"-12" thick concrete foundation walls on continuous wallfootings. Isolated spread footings below columns. A few shrinkage cracks in foundation are visible near the Gymnasium exits.

Vertical Support Systems: Wide flange steel columns at perimeter. 8" thick interior masonry bearing walls; Glu-lam wood arches in the Cafetorium. 12" thick masonry bearing walls at the gymnasium.

Ground Floor Framing System:

4"-5" thick concrete slab-on-grade.

Upper Floor Framing System:

N/A

Roof Framing System:

Classrooms: 2" tongue and groove wood planking on 17³/₄" deep glu-lam wood beams.

Cafetorium: 2" tongue and groove wood planking on 19 1/2" deep wood purlins supported by glu-lam wood arches.

Gymnasium: 2" tongue and groove wood planking on 19 1/2" deep glu-lam wood beams.

Lateral Force Resisting System:

Interior and exterior non-reinforced concrete block masonry walls.

Exterior Envelope Material – Original Building Material – Addition Conditions

Roof Assembly: Wood deck, insulation, membrane, sloping metal roof pans

Wood deck, insulation, sloping metal roof pans membrane roofs years old

Windows: Retrofitted Aluminum windows 1" insulating glass, single glazed clerestory windows (to inside classroom, and to outside high in cafeteria), clerestory windows single glazed Aluminum windows 1" insulating glass, single glazed clerestory windows (to inside and to outside high in cafeteria)

Glazed C- Wall: Alum., 1" Insul. Glass
Doors – Exterior: Glazed aluminum and wood Same as original
Interior: Glazed wood Same as original
Cross-Corridor: Glazed wood Same as original
Hardware: All knob type except exit doors Same as original

Interior Finishes Material – Walls & Floors & Ceilings

Original Building

Material – Walls & Floors & Ceilings

Addition

Conditions

Typical Classrooms GWB, Carpet, VCT, Some exposed wood deck, mostly ACT
GWB, Carpet, VCT, Some exposed wood deck, mostly ACT

Offices: GWB, Carpet, ACT, VCT GWB, Carpet, ACT,
VCT

Gym: CMU, Wood Gym floor*, Wood Deck
Cafeteria; Brick, CMU, Carpet, Wd deck ACT infill

Combined Lobby / Library: GWB/ WD slat acoustic
panels, Carpet, Brick, Wd deck w/ ACT infill*

Auditorium: (Cafeteria)

Corridors: Brick, Carpet, Wd deck Brick, Carpet, Wd deck

Stairs: Brick steps to lowered library in Lobby

Toilets: CT, CT, 2x Lay-in ACT — Vitreous China

Kitchen: CT, CT, GWB

Service/Mechanical: CMU, Concrete, Plaster

ABBREVIATIONS:

CMU — Concrete Masonry Unit, or Concrete Block

Alum — Aluminum

HM — Hollow Metal

VCT — Vinyl Composition Tile

Clg — Ceiling

ACT — Acoustic Tile Ceiling

GWB — Gypsum Wallboard

SCFT — Structural Clay Facing Tile

VT — Vinyl Treads

CT — Ceramic Tile

* — Suspected Asbestos Containing Material, See report by Smith & Wessel Associates, Inc., in the Appendix

PLUMBING SYSTEM:

Service Pipe Size

Meter Size Pressure

Regulator Oper.

Pressure

Pipe

Material

Source Age Miscellaneous

Water: " Yes - Copper Town 46 yrs.

Gas: N/A

System Pipe Material / Condition Type Insulation /

Condition

Miscellaneous

Domestic Cold Water: Copper / Backflow Preventer on Irrigation only —

No Master

Domestic Hot Water:

Copper

Sanitary Waste & Vent:

Cast Iron

Storm Drainage:

Cast Iron

Gas:

None

Non-Potable (Lab) CW:

None

Non-Potable (Lab) HW: None

Acid (Lab) Waste & Vent: None

Kitchen Waste: None

Tempered Water: None

Equipment Type/Fuel Age Condition Miscellaneous

Domestic Water Heater No 1: 50 gal "Everhot"/

Oil-Fired 7 yr

Domestic Water Heater No 2: 80 gal/ Electric 8 yr

Sanitary Ejector Pump: Duplex Unit N/A On-Site Septic (no problems)

Has not been serviced

Storm Ejector Pump: None

Domestic Water Booster Pump: None

Interior Kitchen Grease Trap: N/A

Plumbing Fixtures Type/
Installation
Low Consump /Metering
Accessible Condition Miscellaneous
Water Closet: FV / wall & floor
Urinal: FV/wall No Yes
Lavatory: VC /wall No Note
Drinking Fountain/Water
Cooler:
VC & SS /wall
N/A Some
Classroom Sink SS / counter
Classroom Bubbler/Drinking
Fountain
Bi-level ADA N/A Some
Mop Sink: Sink / floor N/A N/A
Showers: None

Miscellaneous Fixtures Miscellaneous
Hose Bibb: N/A
Wall Hydrant: N/A
Floor Drain: No Trap Primers visible
Emergency Shower / Eyewash: N/A
Emergency Eyewash: N/A
Lab Faucets: N/A
Lab Gas Cocks: N/A
PLUMBING NOTES:

1. Plumbing systems in general are original equipment and in good condition. There are no immediate problems identified.
2. Access to pipe chase behind toilet revealed potentially friable asbestos pipe lagging. This should be evaluated in accordance with AHERA regulations by an accredited "Asbestos Inspector".
3. Sewage ejector pit with duplex pumps located in storage room at gymnasium has not been serviced in, at least, 17 years. Condition unknown but there is a high likelihood that it has reached its useful life.

FIRE PROTECTION:

Water Service Size Backflow Preventer/Type Pipe Material Pressure Condition
Miscellaneous
There is no fire suppression system

Fire Pump GPM Pressure Age Condition Test
Header

Auto
Transfer
MFR/Model No. / HP
None

Jockey Pump Age Condition Miscellaneous
None

Sprinkler System Pipe Material Age Condition Miscellaneous
Wet Sprinkler: N/A
Dry Sprinkler: N/A

Sprinkler Design FS or ACV Pipe Sch. or
Hyd. Calcs
GPM PSI Density Miscellaneous
Wet Sprinkler: N/A
Dry Sprinkler: N/A

Standpipe FDV-Main or Interm.
Landing
FDV/FHC in
Audit/Stage
FDV Size Miscellaneous
Wet Sprinkler: None

Fire Department
Connection
Quantity Type Location(s) Miscellaneous
N/A

HEATING, VENTILATING & AIR CONDITIONING SYSTEMS:

Centralized Systems Energy Source Type Manufacturer Date of
Installation
Condition
Heating Equipment: # oil Cast iron
boiler
DeDietrich 3418
MBH boiler w/
Riello burner
200

Distribution Type Date of
Installation
Condition

Distribution Equipment #1: Underground ductwork w/ zone dampers from Heating & Ventilating (H&V) Units serve the original Classrooms, Corridors & Administration Offices 1957 N/A (Distribution Equipment #2: Base mounted hot water pumps, steel piping, and accessories 1975 (One pump replaced w/ new boiler)
Distribution Equipment #3: Overhead ductwork from H&V units serve the Cafeteria, Media Center & Gymnasium 1975 (some ductwork from 1958 remains)

Terminal/Unitary Equipment

Type Manufacturer Controls Date of

Installation

Condition

Typical Classrooms

(original building):

Heating & ventilating units

Trane Pneumatic 1975 (some are noisy)

Typical Classrooms (new addition):

Unit ventilators & baseboard radiation Trane Pneumatic 1975

Administration Offices: Heating & ventilating unit Trane Pneumatic 1975

Cafeteria: Heating & ventilating unit Trane Pneumatic 1975

Gym: Heating & ventilating unit Trane Pneumatic 1975

Kitchen: Exhaust fan & H&V unit Trane Pneumatic 1975

Corridors: Heating & ventilating units Trane Pneumatic 1975

Toilets: Exhaust Fan N/A Electronic 1975

Controls Type Manufacturer Date of Installation

Condition

Energy Management Controls (hot water distribution system & night setback functions):

Direct Digital Controls (DDC) Johnson Controls 200

Equipment Controllers: Pneumatic Barber Coleman 1975

HVAC NOTES:

1. Ductwork may be transite or asbestos containing which was a common material used during this period for underground ductwork. Recommend testing for verification.

ELECTRICAL:

Rating Voltage Phase/Wiring Date of Installation

Conditions

Service: 800A 120/208 3-Phase/4-Wire 1957 Westinghouse CDP

Type Location Conditions

Transformer: Pad Mass. Electric Parking Lot N/A

Rating Energy Source Manufacturer Date of Installation

Conditions
Emergency Generator: None

Type Date of Installation
Conditions
Distribution System: Westinghouse 120/208 3-Phase/4-Wire 1957/1975

Grounded/Non Grounded Conditions
Devices –
Typical Classrooms:
Grounded duplex
Offices: 2-

Fixture/Lamp Type Mounting Date of
Installation
Conditions
Lighting –
Typical Classrooms:
1"x4' w/lens / T8 Wrap

Surface 200

Offices: 2'x4' w/lens / T8 Wrap Surface 200
Library: 2'x4' w/lens Surface 200
Cafeteria: 18"x4' / T5HO W/cage Recessed 200
Gym: 18"x4' / T5HO W/cage Pendant 200
Corridor: 4' strips, exposed lamps with protective coating Surface/Ceiling 2004
Lighting Controls: None

Fixture Type Mounting Date of Installation
Conditions
Site Lighting -
Parking: Flood Pole 1970's
Building: Wall Packs Surface 2000's

Type Manufacturer Date of Installation
Conditions
Security Systems – CCTV: None Found
Door Access Controls: None
Security System: Zoned DSC-PC2250 Surface/Wall 1990's
Motion Detectors: Yes N/A Surface/Wall 1990's
Master Clock: None Found
Bell: Note
P.A. System: Electronic Simplex-5120 Rack 1990's 3, Note

Corridors: Speaker N/A Recessed/Wall 1957
Classrooms: Speaker N/A Surface/Wall 1957

Quantity/Type Manufacturer CATV Date of
Installation

Conditions

Data -

Library: 5 Cat 5 Yes 1990's

Classroom: Cat 5 (1) Outlet 1990's

Telephone System - Axxess Inter-Tel 1998/200

Administration: Digital — Multi-line

Classroom: Digital-One- line Wall mounted

Type Manufacturer Controls Date of Installation

Conditions

Gym/Café: Small Simplex 1990's

Type Conditions

Emergency Lighting: EBU/Heads Mixed 1970's

Exits: LED N/A 200

Type Manufacturer Notifications Date of
Installation

Conditions

Fire Alarm System: Addressable Simplex-400 General 2000's

Detector Type Alarm Signal

Type

Pull Station Date of

Installation

Conditions

Devices –

Typical Classrooms:

HS/

Some w/HD

Offices: HS/SD

Library: SD/HS

Café: SD/HS

Gym: HS

Lobby/Corridor: HD

Kitchen: HD

Toilets: HS

Bathrooms: Strobe Only

Yes — Non ADA

Height

HS — Horn/Strobe, SD — Smoke Detector, HD — Heat Detector

ELECTRICAL NOTES:

1. Integrated P.A.system, tied into phone system. P.A. tone system for bell operation.
2. Space for additional breakers for distribution, and no space for new section.
3. Light fixtures mostly new or with new lamps and ballasts done in 200 by Mass. Electric program.
4. Integrated P.A.system, tied into phone system. P.A. tone system for bell operation.

PROVISIONS FOR ACCESSIBILITY

Exterior Accessible Route

Accessible Route: See Site Data for info.

Width Material Hardware Conditions

Primary Entrance: 12'-0" Alum doors, single
glazed

Pushbar

Exterior/Egress Doors: 36", 42" Wood Pushbar

Signage: Not much HC signage

Interior Accessible Route Width Material Hardware Conditions

Accessible Route: 8'-0" TYP, some 5'-0" Carpet

Entrance Vestibules: None

Interior Doorways –

Classrooms:

36" Glazed Wood Knob

Offices: 36" Glazed Wood Knob

Library: None

Auditorium / Stage: 6'-0" Wood Pushbar

Gym/Cafeteria/Kitchen: 6'-0" Wood Pushbar

Cross – Corridor: 6'-0" Wood Pushbar

Stairs: 48" Brick

Toilets: 36" Wood Pulls, Push

Size Conditions

Vertical Access:

(Elevators/Lifts)

None

Width Floor Surface Handrail/Guard Heights Conditions

Stairways: 48" Brick Not per code

Ramps: 5'-0" Brick Not per code

Clear Floor Space/Turning Radius Toilet Partitions
Conditions

Toilet Rooms: bathroom each sex is accessible, however door entry is not per Code
OK

Tables & Seating –

Cafeteria:

Accessible

Drinking Fountains: Accessible fountain

Public Tele: None

Controls: None

Signage: Not much HC signage

Emergency Alarms: Yes, installed

GRAFTON HIGH SCHOOL

Name of School: GRAFTON HIGH SCHOOL

Address: Providence Highway
Grafton, Massachusetts 01519

Name of Owner: Town of Grafton

Grade Levels Served: 9 thru

Student Population: 577 School Year 200 — 05, 6 School Year 2005 — 06

Years in Service:

Year Constructed: 196 Designer: Martin and Williams

Additions: 199 Designer: Anthony Tappe and Assoc.

Existing Drawings: Have existing drawings in the office

INVENTORY OF EDUCATIONAL SPACE:

Description (in Regulations) Number Square Feet Location (B, G, U)

BASIC EDUCATIONAL SPACE Pre-Kindergarten (1200-1300):

Kindergarten (1200-1300):

General Class (900-1000): 7/ 16,705 sf G/U

Art (1000-1200): 1,620 sf G

Music Rooms (1000-1200):

Ensemble (up to 200): 375 sf G

Practice (72-130): 80 sf G

Science/Computer (1000-1200): 5/ 7,410 sf G/U

Shops (1500-1800): 2/ 3,785 sf G/U

Homemaking (1200-1400): 1,720 sf G

Media Center/Library (1800-3000): 4,220 sf G

Physical Education (1800-3000): 2/ 10,185 sf G/U

Special Needs (as needed): 3/ 4,660 sf G/U

Remedial (as needed):

Collaborative (as needed):

Subtotal - Basic Educational Space: 50,760 sf

MISC. EDUCATIONAL SPACE Cafeteria (Note 1): 3,060 sf G

Cafetorium (Note 1):

Stage: Music: 2,300 sf G

Guidance (as needed):

Office: 305 sf G

Counseling:

Waiting: 455 sf G

Health Suite: Office: 265 sf G

Examining Room:

Rest Areas:

Kitchen (Note 2): 2,035 sf G

Administration: Principal: 145 sf G
Asst. Principal: 140 sf G
General Office: 515 sf G
Conference: 205 sf G
Other (up to 800): 375 sf G
Planning Room:
Teacher Dining Room:
Auditorium (Note 3): 4,460 sf G/U
Physical Education: Lockers: 4/ 2,730 sf G/U
Storage: 1,235 sf G
Subtotal - Misc. Educational Space: 18,225 sf
TOTAL - Educational Space: 68,985 sf

Notes:

- 1) 15 Square feet per Pupil for $\frac{1}{2}$ or $\frac{1}{1}$ of the enrollment at each seating.
 - 2) For full service Kitchen, allow 1300 sq. ft. for the first 300 meals, plus sq. ft. for each additional meal served. For service (warming) Kitchen only, allow 800 sq. ft.
 - 3) 7 Square feet per Pupil for seating; Stage square footage additional.
- Area per Pupil Tabulation:

CONSTRUCTION CLASSIFICATION DATA:

Construction Type: (from State Building Code)
Original Building: C — Non-combustible, unprotected
Addition 1: C — Non-combustible, unprotected
Addition 2:
Occupancy Group: E - educational
Area Sub-Basement:
Basement:
Ground Floor: 22,605 (A) + 19,9 (B) + 14,796 (C) + 11,088 (addition)
Upper Floors – 2nd: 22,605 (A) + 2,609 (B) + 6,78 (addition)
Upper Floors – 3rd :
Total: 100,410 GSF

Height # of Stories
Height/Stories:
Original Building:
Addition 1: 24'5" at story, 17'0" at story and partially
Addition 2:

SITE DATA:

Description
Land Used: 20% High School; 50% Athletic Fields; 30% Municipal Complex

Lot Area: 46.5 acres (Note 7)

Topography: Predominately Flat with steep slopes to Ripple Lake, Municipal complex on slight hill.

Wetlands: Along Ripple Lake shore and bank of Quinsigamond River

Size: Material: Source: Date Installed Conditions

(If septic system – verify if aggregate systems applies)

Utilities –Sanitary: 8” Vitrified Clay 196 Plans 1960s Note

Water: 4” Dom/ 6” Hyd 196 Plans 1960s

Electricity: Overhead

Gas: None

Oil Tank: at Loading Dock

Single wall steel 196 Plans & Maint. Staff

1960s

Storm Water Management:

4’ Sump CBs Outlet to Ripple Lake 196 Plans

Athletic Fields – Field 1: 120,000 SF

Grass (base & soft ball)

Site Visit & Aerials

Field 2: 31,000 SF Grass (football) Site Visit & Aerials

Field 3: 29,000 SF Grass (soccer) Site Visit & Aerials

Track: 900 LF Bit. Conc. Site Visit & Aerials

Tennis Courts: courts Bit. Conc. Site Visit

Basketball Courts: courts Bit. Conc. Site Visit

Playground/Total Lot: None

Type: Source Date Installed Conditions

Site Lighting: Minimal Coverage Site Visit

Fire Hydrant: Hydrant Site Visit

Spaces Material Date Installed Conditions

Parking – Lot 1/2/3: 120/75 Bit. Conc. 1; Note

Bus Drop/Pick-Up Area: 300 LF along fence line Bit. Conc.

Parent Drop/Pick-Up Area: None

Loading & Service: Loading Docks Bit. Conc.

Signage: Minimal

Trash Management Area:

PROVISIONS FOR ACCESSIBILITY:

Exterior – Accessible Route

Width Material Conditions

Accessible Route:

Curb Cuts: Concrete Curb

Walkways: Concrete Sidewalks / Pavers at Entrance 2/1;Note 5

Ramps: Concrete

Parking: 6 Spaces Bituminous Concrete

SITE NOTES:

1. Septic tank and leaching field (12,000SF) installed in the 1960s. Leaching field is presently retired by a sewer connection to the municipal sewer system.
2. Pavement areas do not include curbs or berms to collect and treat runoff.
3. Extensive transverse, longitudinal and alligator cracking throughout with numerous patches and holes. Significant erosion at edge of pavement along entrance drives due to lack of curbs or berms.
4. No defined bus or parent drop-off/pick-up areas. Areas used are in parking lot without any curbing or delineation between vehicular and pedestrian areas.
5. No pedestrian walkway to sidewalk along Providence Road.
6. Oil tank is believed to be 40 years old, single wall steel construction. In the early 90's it was retrofitted with overfill valve and spill bucket. It has not been integrally tested since the early 90's. Its age indicated that it has lived beyond its useful service life. Without cathodic protection and leak detection the tanks showed the "tightness" tested annually.
7. High School occupies the same site as the Municipal Complex. The athletic field information is duplicated in the Municipal Complex section.

BUILDING SYSTEMS & ASSEMBLIES OR ORIGINAL BUILDINGS:

Structure Material Remarks Conditions

Foundation System: 12" thick concrete foundation walls on continuous wall footings; Isolated spread footings below columns.

Vertical Support Systems: Wide flange steel and rectangular hollow steel columns.

Ground Floor Framing System:

4" thick concrete slab-on-grade.

Upper Floor Framing

System:

Bldg. A: 5" thick reinforced concrete slab, on wide flange steel beams. (no metal deck).

Media Center Addition (1993): ½" concrete on 2" composite metal deck, supported on wide flange steel beams and girders.

Roof Framing System:

Bldgs. A & C and the 199 addition: ½" steel deck on steel joists and wide flange steel beams.

Bldg. B: Primarily N-type trusses, combined with wide flange steel beams and steel joists.

Lateral Force Resisting System:

Original Bldg.: Tilt-up concrete panels on perimeter. Interior masonry walls. 199

Addition: Diagonal tube steel braced frames at selected bays.

Exterior Envelope Material – Original Building Material – Addition Conditions

Roof Assembly: Spray on urethane insulation and spray on membrane roof, in poor condition Spray on urethane insulation and spray on membrane roof 1, Many leaks and frequent failures

Windows: Aluminum, double glazed Alum., double glazed 3,

Problems with screen panel at operators

Glazed C- Wall: Aluminum, double glazed Alum., double glazed 3,

Doors – Exterior: Aluminum, double glazed Alum., double glazed 3,

Interior: HM, glazed HM HM, glazed HM 3,

Cross-Corridor: HM, glazed HM HM, glazed HM 3,

Hardware: Lever Lever 3,

Interior Finishes Material – Walls & Floors & Ceilings

Original Building

Material – Walls & Floors & Ceilings

Addition

Conditions

Typical Classrooms: GWB, VCT*, 2x ACT

Offices: GWB, CPT, 2x ACT, GWB

Gym: CMU, WD Floor*, Exposed Structure

Cafeteria: CT, GWB, VCT*, 2x ACT

Library: GWB, Carpet, 2x ACT

Auditorium: GWB, Carpet, Exp. Structure,

Acoustic clouds, conc. Floor, WD Stage

Corridors: CT, VCT*, 2x ACT 3

Stairs: CT, VCT*, Vinyl Treads, 2x ACT

Toilets: CT, CT, GWB

Vitreous China Flush valves

Various 3,

Kitchen: CT, VCT*, 2x Clean ACT

ABBREVIATIONS:

CMU — Concrete Masonry Unit, or Concrete Block

Alum — Aluminum

HM — Hollow Metal

VCT — Vinyl Composition Tile

Clg — Ceiling

ACT — Acoustic Tile Ceiling

GWB — Gypsum Wallboard

SCFT — Structural Clay Facing Tile

VT — Vinyl Treads

CT — Ceramic Tile

* — Suspected Asbestos Containing Material, See report by Smith & Wessel Associates, Inc., in the Appendix

PLUMBING SYSTEM:

Service Pipe

Size

Meter Size Pressure

Regulator Oper.

Pressure

Pipe

Material

Source Age Miscellaneous

Water: 4" - Copper Town 4 yrs

Gas: 1- 1/2" 3000 CFH Low Pressure Steel Utility

System Pipe Material / Condition Type Insulation /
Condition

Miscellaneous

Domestic Cold Water: Copper / good

Domestic Hot Water: Copper / good

Sanitary Waste & Vent: Cast Iron / good

Storm Drainage: Cast Iron / good

PVC (gym) / good

Gas: N/A

Non-Potable (Lab) CW: Copper / good Tested annually.

Non-Potable (Lab) HW: None

Acid (Lab) Waste & Vent: Poly-Pro Limestone treatment — exterior pit has not been serviced.

Kitchen Waste: None

Tempered Water: None

Equipment Type/Fuel Age Condition Miscellaneous

Domestic Water Heater: Gas-Fired

Boiler / Tank

1960s

Sanitary Ejector Pump: Duplex unit years N/A Information not available. Unit has not been serviced.

Storm Ejector Pump: None

Domestic Water Booster Pump: None

Interior Kitchen Grease Trap: Point-of-use

Plumbing Fixtures Type/
Installation
Low Consump /Metering
Accessible Condition Miscellaneous
Water Closet: FV / wall & floor
No Yes
Urinal: FV/wall No Yes
Lavatory: VC /wall No Yes
Drinking Fountain/Water
Cooler: Bil-level ADA N/A Yes
Classroom Sink: Stainless steel No No
Classroom Bubbler / Drinking
Fountain:
N/A
Mop Sink: Sink / floor N/A N/A
Showers: Individual mixing valves Stalls are tiled

Miscellaneous Fixtures Miscellaneous
Hose Bibb: N/A
Wall Hydrant: None
Floor Drain: No Trap Primers visible
Emergency Shower / Eyewash: Yes — not to drain, no tempered water supply

Emergency Eyewash: N/A
Lab Faucets: N/A
Lab Gas Cocks: N/A

PLUMBING NOTES:

1. During the addition and renovation in the mid 90's as sewage lift station was installed at the South east corner of building A. Its size and capacity are unknown. It has not been serviced since it was installed. It has probably reached its life expectancy.

FIRE PROTECTION:
Water Service Size Backflow
Preventer / Type
Pipe Material Pressure Condition Miscellaneous
Fire Suppression (limited to
Media Center, Band
Room, Boiler Room, Arts
Storage, IA)
½" DCVA Steel 130 psi Good

Fire Pump GPM Pressure Age Condition Test
Header
Auto
Transfer
MFR/Model No. / HP
None

Jockey Pump Age Condition Miscellaneous
None

Sprinkler System Pipe Material Age Condition Miscellaneous
Wet Sprinkler: Steel 1997 / 196 Good
Dry Sprinkler: N/A

Sprinkler Design FS or ACV Pipe Sch. or
Hyd. Calcs
GPM PSI Density Miscellaneous
Wet Sprinkler: ACV HYD Varies Varies Varies Varies
Dry Sprinkler: N/A

Standpipe FDV-Main or Interm.
Landing
FDV/FHC in
Audit/Stage
FDV Size Miscellaneous
Wet Sprinkler: None

Fire Department
Connection
Quantity Type Location(s) Miscellaneous
Yes Siamese w/WIV, Tamper Switch

HEATING & VENTILATING SYSTEMS:

Centralized Systems Energy
Source
Type Manufacturer Date of
Installation
Condition
Heating Equipment #1: # oil Fire-tube
Boiler Cleaverbrooks
model #CB-552-150 (approx. 230 MBH output) 196
Heating Equipment #2: # oil Fire-tube
Boiler Cleaverbrooks model #CB-100-150 (approx. 230 MBH output) 199

Distribution Type Date of
Installation
Condition

Distribution Equipment #1: Base mounted hot water pumps, steel piping,
and accessories. 196 & 199

Distribution Equipment #2: Overhead ductwork serves all spaces except for the
classrooms in the addition.
196 & 199

Terminal/Unitary
Equipment

Type Controls Date of
Installation
Condition

Typical Classroom (original
building): Heating & Ventilating Units, Common Exhaust System & Baseboard Radiation
Pneumatic 196

Typical Classroom
(addition): Unit Ventilators w/ Common Exhaust System. Baseboard Radiation at areas
with full height glass. Pneumatic 199

Administration Offices: Heating & Ventilating Unit,
Common Exhaust System & Baseboard Radiation Pneumatic 196

Library: Indoor Heating & Ventilating Unit and Baseboard Radiation Pneumatic 199

CADD Lab: Window Air Conditioning

Units (in addition to "original" Typical Classroom system mentioned above)

Electronic (Internal) N/A N/A

Lecture Hall: Rooftop Air Conditioning

Unit Pneumatic 199

Home Economics: Rooftop Air Conditioning

Unit Pneumatic 199

Terminal/Unitary

Equipment (Continued)

Type Controls Date of

Installation

Condition

Cafeteria: Heating & Ventilating Unit, Finned Tube Radiation & Exhaust System
Pneumatic 196

Gym: Heating & Ventilating Unit; Exhaust System & Baseboard Radiation for Locker
Rooms Pneumatic 196

Auditorium: Heating & Ventilating Unit;
Exhaust System Pneumatic 196

Kitchen: Exhaust Fan and hot water

Make-Up Air Unit Pneumatic 196

Corridors: Heating & Ventilating Unit Pneumatic 196

Toilets: Exhaust Fan Pneumatic 196

Controls Type Manufacturer Date of
Installation
Condition

Equipment Controllers: Pneumatic Johnson
Controls 196 & HVAC NOTES:

1. One hot water distribution pump motor replaced with new and one motor rebuilt approximately 2-1/2 years ago.
2. Heating and Ventilating Unit fan motor replaced in 2004.
3. Air compressor replaced in 2004.

ELECTRICAL:

Rating Voltage Phase/Wiring Date of
Installation
Conditions

Service: 1600A 120/208 3-Phase/4-Wire 1960's
Westinghouse PowrLine C

Type Service Provider Location Date of
Installation
Conditions

Transformer: Pad Mass. Electric Parking Lot N/A

Rating Energy Source Manufacturer Date of
Installation
Conditions

Emergency Generator: None

Type Voltage Phase/Wiring Date of
Installation
Conditions

Distribution System: Bryant/West. 120/208 3-Phase/4-Wire 1960's

Grounded/Non Grounded Conditions

Devices –

Typical Classrooms:

Grounded duplex

Offices: 2- duplex

Fixture/Lamp Type Mounting Date of
Installation
Conditions

Lighting –

Typical Classrooms:

(9) 2'x4' w/lens / T8 Recessed 200
Offices: 2'x4' w/lens / T8 Recessed 200
Library: 2'x2' / T8 16-Cell Parabolic Recessed 200
Cafeteria: 2'x4' w/lens / T8 Recessed 200
Gym: 18'x4' / T5HO W/cage Pendant 200
Corridor: 2'x2' / T8 9-Cell Parabolic Recessed 200
Lighting Controls: None Found
Auditorium: Pendant — Incandescent 200
House — T5HO Surface 200
Stage: ETC — Incandescent Controls
and dimming NSI-2408
Pendant 200

Fixture Type Mounting Date of
Installation
Conditions
Site Lighting -
Parking: Flood Pole 80's-90's
Building: Wall Packs/ Flood Surface/Wall 80's-90's 1, Note

Type Manufacturer Date of
Installation
Conditions
Security Systems – CCTV:
1-Camera Not Found 200
Door Access Controls: None
Security System: None Found
P.A. System – Typical
Classrooms:

Speaker Recessed/Wall 200
Corridors Speaker Recessed/Ceiling 200
Clock Hardwired Simplex 2350 1990's
Clock Radio
Frequency Timex 1,

Quantity/Type Manufacturer CATV Date of
Installation
Conditions
Data -
Library: 17 Cat 5 Yes 1990's
Classroom: 2, Note Cat 5 (1) Outlet 1990's
Telephone System –
See Note
Telecenter VI Rauland 200

Administration: Digital —
Multi-line

Classroom: Digital-One-line

Type Manufacturer Controls Date of
Installation
Conditions
Local Sound System —
Auditorium: Medium Size Crown/DBX / Wireless/CD 2000's

Type Manufacturer Date of
Installation
Conditions
Emergency Lighting: EBU/Heads Mixed 1990's

Type Manufacturer Notifications Date of
Installation
Conditions
Fire Alarm System: Zoned —
Hardwired Simplex/ Grinnell General 1990's

Detector Type Alarm Signal
Type
Pull Station Date of
Installation
Conditions
Devices —
Typical Classrooms:HS

Offices: HS
Library: SD/HS
Cafeteria: HS
Gym: HD
Lobby/Corridor: SD

Toilets: HS

Bathrooms: HS

Auditorium: SD

HS — Horn/Strobe, SD — Smoke Detector, HD — Heat Detector

ELECTRICAL NOTES:

1. Integrated system includes telephone, P.A. (intercom), and bell systems.
2. There is no room for expansion, additional section will not fit in the area. Space for two additional breakers.
3. Most fixtures have damaged or yellowed lenses.
4. Typical classroom has smartboard and ceiling mounted projector.
5. Clocks work, but there is bad reception for the radio signal. Custodian states they all have to be adjusted manually. A radio signal receiver/amplifier may correct this problem.
6. Fire alarm system appears to be in good working condition, but there are some areas (smoke and horn/strobe) without adequate coverage per current codes.

PROVISIONS FOR ACCESSIBILITY:

Exterior Accessible Route

Accessible Route: See Site Data for info.

Width Material Hardware Conditions

Primary Entrance: 6'-0" HM Glazed Pushbar

Exterior/Egress Doors: 6'-0", 3'-0" HM Glazed Pushbar

Signage: Not much HC signage

Interior-Accessible Route Width Material Hardware Conditions

Accessible Route: 7'-0" Typ. VCT Lever

Entrance Vestibules: 9'-0" x 9'-0" VCT Lever

Interior Doorways –

Classrooms:

36" HM Glazed Lever

Offices: 36" HM Glazed Lever

Library: 6'-0" HM Glazed Lever

Auditorium / Stage: 6'-0" HM Pushbar

Auditorium floor may have excessive slope

Gym/Cafeteria/Kitchen: 6'-0" HM Pushbar

Cross – Corridor: 6'-0" HM Pushbar

Stairs: 6'-0" HM Pushbar 3, Stair doors do not have latches

Toilets: 36" HM Push/Pulls

Size Conditions

Vertical Access:

(Elevators/Lifts)

Fully Accessible elevator

Width Floor Surface Handrail/G

uard Heights
Conditions

Stairways: 42", 8'-0" Vinyl Treads Not per
Code

Ramps: in Auditorium Carpet Not per
Code

Clear Floor Space/Turning Radius Toilet
Partitions
Conditions

Toilet Rooms: All toilet rooms look accessible, some toilet entries are not

Tables & Seating –

Cafeteria:

Accessible

Drinking Fountains: Some are accessible, some not

Public Tele: None

Controls OK at elevator

Signage: OK where it exists

Emergency Alarms: In place

GRAFTON MIDDLE SCHOOL

GENERAL INFORMATION

Name of School: GRAFTON MIDDLE SCHOOL

Address: 60 North Street

Grafton, Massachusetts

Name of Owner: Town of Grafton

Grade Levels Served: 6 to 8

Student Population: 610 School Year 2005 — 06

Years in Service: 37

Year Constructed: 1968 Designer: Alderman and Macneish

Additions: 1997 Designer: Anthony Tappe and Associates

Existing Drawings: Have existing drawings in the office

INVENTORY OF EDUCATIONAL SPACE:

Description (in Regulations) Number Square Feet Location (B, G, U)

BASIC EDUCATIONAL SPACE Pre-Kindergarten (1200-1300):

Kindergarten (1200-1300):

General Class (900-1000): 11/9 18,165 sf G/U

Art (1000-1200): 1,335 sf G

Music Rooms (1000-1200): 2,460 sf G

Ensemble (up to 200): 180 sf G

Practice (72-130):

Science/Computer (1000-1200): 4/ 6,250 sf G

Shops (1500-1800): 1,195 sf G

Homemaking (1200-1400): 1,300 sf G

Media Center/Library (1800-3000): 2,485 sf G

Physical Education (1800-3000): 7,910 sf G

Special Needs (as needed): 8/ 4,885 sf G/U

Remedial (as needed):

Collaborative (as needed):

Subtotal - Basic Educational Space: 46,165 sf

MISC. EDUCATIONAL SPACE Cafeteria (Note 1):

Cafetorium (Note 1): 4,870 sf G

Stage: Guidance (as needed):

Office: 435 sf G

Counseling: 165 sf G

Waiting: G

Health Suite: Office: 310 sf G

Examining Room:

Rest Areas:

Kitchen (Note 2): 1,830 sf G
Administration: Principal: 220 sf G
Asst. Principal:
General Office: 285 sf G
Conference: 120 sf G
Other (up to 800):
450 sf G
Planning Room: 300 sf G
Teacher Dining Room: 300 sf G
Auditorium (Note 3):
Physical Education: Lockers: 720 sf G
Storage: 190 sf G
Subtotal - Misc. Educational Space: 10,195 sf
TOTAL - Educational Space: 56,360 sf

Notes:

- 1) 15 Square feet per Pupil for $\frac{1}{2}$ or $\frac{1}{4}$ of the enrollment at each seating.
- 2) For full service Kitchen, allow 1300 sq. ft. for the first 300 meals, plus sq. ft. for each additional meal served. For service (warming) Kitchen only, allow 800 sq. ft.
- 3) 7 Square feet per Pupil for seating; Stage square footage additional.

Area per Pupil Tabulation:

Department of Education

Standards:

135 GSF per Middle School Pupil, not including Special Needs

Building Gross SF: 84,505 GSF

Current Population: 610 School Year 2005 — 06

Recommended Population: 626 students, not including Special Needs, based on existing building gross area

Current GSF/Pupil: 139 GSF/Pupil during School Year 2005 — 06 (includes Special Needs)

CONSTRUCTION CLASSIFICATION DATA:

Construction Type: (from State Building Code)

Original Building: B — Non-combustible, protected

Addition 1: C — Non-combustible, unprotected

Addition 2:

Occupancy Group: E - Educational

Area Sub-Basement:

Basement:

Ground Floor: 51,35 GSF Original + 11,737 GSF Addition at Gym

Upper Floors – 2nd: 15,640 GSF Original + 5,776 GSF Addition over old Gym

Upper Floors – 3rd :

Total: 84,505 GSF

Height # of Stories

Height/Stories:

Original Building: 24' Classroom, 12'6" Story,

Addition 1: 34' to peak of new Gym roof

Addition 2:

SITE DATA:

Description

Land Used: 40% Middle School; 30% Athletic Fields; 30% Wooded

Lot Area: 15.7 Acres

Topography: Slopes down from west to east, buildings & fields on leveled areas.

Wetlands: Along the lower slopes along the eastern property line.

Size: Material: Source: Date Installed Conditions

(If septic system – verify if aggregate systems applies)

Utilities –Sanitary: 8" PVC 1998 Plans &

Town Engineer

Before '97 Note

Water: 4" Dom / 6" Hyd 1968 Plans 1960s

Electricity: Overhead

Gas: None

Oil Tank: 10,000 Gal. 1968 Plans 1960s Note

Storm Water

Management:

2' sump CBs to Municipal Drain 1968 Plans 1960s

Athletic Fields – Field 1: 28,000 SF Grass (Soccer) 1968 Plans & Site Visit 1960s

Field 2: 28,000 SF Grass (Baseball) 1968 Plans & Site Visit 1960s

Field 3: None

Track: None

Tennis Courts: None

Basketball Courts: None

Playground/Total Lot: None

Type: Source Date Installed Conditions

Site Lighting: Yes Site Visit

Fire Hydrant: Hydrant Site Visit

Spaces Material Date Installed Conditions

Parking – Lot 1/2/3: 45/5 Bituminous Concrete 1990s 2; Note

Bus Drop/Pick-Up Area: 200' Bituminous Concrete 1990s

Parent Drop/Pick-Up Area: None
Loading & Service Raised Docks Bituminous Concrete 1960s
Signage: Yes
Trash Management Area:

PROVISIONS FOR ACCESSIBILITY:

Exterior – Accessible Route

Width Material Conditions

Curb Cuts: Vertical Granite Curb at Building Entrance / Bituminous Concrete Berm elsewhere

Walkways: Concrete at Building Entrance / Bituminous Concrete elsewhere

Ramps: Concrete

Parking: 6 Spaces Bituminous Concrete

SITE NOTES:

1. Septic tank and leaching field (32,500 SF) installed in the 1960s. Septic tank and leaching field are presently retired by a connection to the municipal sewer system.
2. New gym and some adjacent roof drains discharge via two drywells to an outlet near the southeast corner of the building (1997 Plans).
3. Longitudinal cracks and settlement in some areas.
4. The 10,000 gallon oil tank is believed to have been installed in 1968. In the early 90's it was retrofitted with an overfill valve and spill bucket. "Tightness" testing has not been done since the early 90's. Annual "tightness" testing should be conducted as the tank is not equipped with cathodic protection or leak detection.

BUILDING SYSTEMS & ASSEMBLIES OR ORIGINAL BUILDINGS:

Structure Material Remarks Conditions

Foundation System: 8"-16" thick concrete foundation walls on continuous wall footings; Isolated spread footings located below columns.

Vertical Support Systems: Wide flange steel and rectangular hollow steel columns.

Ground Floor Framing

System: 4" and 6" thick concrete slab-on-grade.

Upper Floor Framing

System:

1/2" concrete on 1/2" metal deck, supported by steel joists. The joists are supported by wide flange steel girders. 1997 Renovation: 1/2" concrete and 2" metal deck on wide flange steel beams.

Roof Framing System:

Existing library: 4" acoustic metal deck on wide flange steel beams and girders.

1997 Gymnasium Addition: ½” metal deck on wide flange steel beams, supported by moment resisting gable frames.

Lateral Force Resisting System:

Original Building: Exterior and interior walls.

1997 Renovation: Tube steel braced frames located below new library.

1997 Gymnasium Addition: Moment resisting gable frames and exterior masonry walls.

Many rooms have cracks in the masonry walls.

Exterior Envelope Material – Original Building Material – Addition Conditions

Exterior Wall System: Brick on CMU backup. Some cracking exists, see structural above.

Roof Assembly: Metal Deck, Insulation, Membrane Steel deck membrane, composite acoustic steel deck, insulation sheathing, asphalt shingles windows single glazed Alum double glazed

Glazed C- Wall: Alum single glazed Alum double glazed

Doors – Exterior: HM, HM glazed, WD HM, HM glazed, Wood

Interior: WD glazed HM

Cross-Corridor: HM, HM glazed WD, HM

Hardware: Mostly Lever Mostly lever

Interior Finishes Material – Walls & Floors & Ceilings

Original Building Material – Walls & Floors & Ceilings

Addition

Conditions

Typical Classrooms: CMU, Carpet, VCT*, ACT, CMU, VCT, ACT

Offices: CMU, Carpet, 2x ACT, some GWB CMU, VCT, ACT Gym: CMU, Acoustic CMU, Wd Floor, Exposed Acoustic steel deck

Cafeteria: CMU, Terrazzo, Plaster*, ACT

Library: GWB, Carpet, Acoustic steel deck

Auditorium:

Corridors: Structural glazed tile, Terrazzo, 2x Acoustic tile CT, CMU, VCT, ACT

Stairs: Structural Glazed Tile, Terrazzo treads, 2x ACT

Toilets: CT, CT, CMU, Plaster CT, CT, CMU, Plaster, GWB

Kitchen: Structural glazed tile, Q.T., Clean ACT

Service/Mechanical: CMU, Conc, ACT, exposed deck CMU, VCT, exposed deck

ABBREVIATIONS:

CMU — Concrete Masonry Unit, or Concrete Block
Alum — Aluminum
HM — Hollow Metal
VCT — Vinyl Composition Tile
Clg — Ceiling
ACT — Acoustic Tile Ceiling
GWB — Gypsum Wallboard
SCFT — Structural Clay Facing Tile
VT — Vinyl Treads
CT — Ceramic Tile
* — Suspected Asbestos Containing Material, See report by Smith & Wessel Associates, Inc., in the Appendix

PLUMBING SYSTEM:

Service Pipe
Size
Meter Size Pressure
Regulator
Oper.
Pressure
Pipe
Material
Source Age Miscellaneous
Water: 4" - Copper Town 35 yrs
Gas: N/A LP for Science
Classroom)

System Pipe Material / Condition Type Insulation /
Condition

Miscellaneous
Domestic Cold Water: Copper / good
Domestic Hot Water: Copper / good
Sanitary Waste & Vent: Cast Iron / good
Storm Drainage: Cast Iron / good
Gas: N/A
Non-Potable (Lab) CW: None
Non-Potable (Lab) HW: None

Acid (Lab) Waste & Vent: Poly-Pro Limestone (1998 system)
Kitchen Waste: Point of use grease trap Reportedly serviced three (3) times per year.
Tempered Water: None

Equipment Type/Fuel Age Condition Miscellaneous
Domestic Water Heater: 175 Gallon,

400 GPH Receiver , Oil “MasterMixer ”1985 PUI
Sanitary Ejector Pump: None
Storm Ejector Pump: None
Domestic Water Booster Pump: None
Interior Kitchen Grease Trap: Point of use grease trap

Plumbing Fixtures Type/

Installation

Low Consump

/Metering

Accessible Condition Miscellaneous

Water Closet: FV / wall &
floor No Yes Toilets upgraded for MAAB in 1998.

Urinal: FV/wall No Yes

Lavatory: VC /wall No Yes

Drinking Fountain/Water

Cooler: Bi-level water cooler No Yes

Classroom Sink Lab sinks integral No Yes No vacuum breakers on science faucets.

Classroom Bubbler / Drinking

Fountain N/A

Mop Sink: Sink / floor N/A N/A

Showers: Staff only No N/A

Miscellaneous Fixtures Miscellaneous

Hose Bibb: N/A

Wall Hydrant: Wall hydrants do not have back flow prevention.

Floor Drain: No Trap Primers visible

Emergency Shower / Eyewash: M

Emergency Eyewash: M

Lab Faucets: No vacuum breakers in Science Room

Lab Gas Cocks: Master shut-off in place behind locked doors.

PLUMBING NOTES:

1. Plumbing General: Plumbing system is original. No suppression in the kitchen hood.
Hose reel in both science classrooms.

FIRE PROTECTION:

Water Service Size Backflow

Preventer / Type

Pipe Material Pressure Condition Miscellaneous

There is no fire suppression system

Fire Pump GPM Pressure Age Condition Test
Header
Auto
Transfer
MFR/Model No. / HP
None

Jockey Pump Age Condition Miscellaneous
None

Sprinkler System Pipe Material Age Condition Miscellaneous
Wet Sprinkler: N/A
Dry Sprinkler: N/A

Sprinkler Design FS or ACV Pipe Sch. or
Hyd. Calcs
GPM PSI Density Miscellaneous
Wet Sprinkler: N/A
Dry Sprinkler: N/A

Standpipe FDV-Main or Interm.
Landing
FDV/FHC in
Audit/Stage
FDV Size Miscellaneous
Wet Sprinkler: None

Fire Department
Connection
Quantity Type Location(s) Miscellaneous
N/A

HEATING, VENTILATING & AIR CONDITIONING SYSTEMS:

Centralized Systems Energy

Source

Type Manufacturer Date of

Installation

Condition

Heating Equipment: # oil Cast Iron Boiler HB Smith boiler model 640 w/ Marathon
burner 1968

Distribution Type Date of Installation

Condition

Distribution Equipment #1: Base mounted hot water pumps, piping, and accessories (serves original building). 1968

Distribution Equipment #2: Base mounted hot water pumps, piping, and accessories (serves addition). 1998

Distribution Equipment #3: Overhead ductwork from Heating & Ventilating (H&V) Units serve the Gymnasium & Cafeteria. 1968

Terminal/Unitary

Equipment

Type Controls Date of

Installation

Condition

Typical Classroom (original building):

Unit Ventilators & General Exhaust System; Baseboard Radiation under windows Pneumatic 1968

Typical Classroom

(addition):

Unit Ventilators & General Exhaust System; Baseboard Radiation under windows Pneumatic 1998

Administration Offices

(original building):

H&V Unit; Baseboard radiation Pneumatic 1968

Administration Offices

(addition):

Ductless split system air Conditioning units Electronic (stand alone) 1998

Media Center: Ceiling mounted Unit

Ventilators with direct expansion (DX) cooling coil, hot water coil & outdoor

Condensing Unit; Baseboard Radiation Pneumatic 1998

Computer Lab Ceiling mounted AC unit with direct expansion (DX) cooling coil & outdoor

Condensing Unit; Baseboard Radiation Pneumatic 1998

Cafeteria: Heating & Ventilating Unit & Finned Tube Radiation Pneumatic 1968

Gym (addition): Heating & Ventilating Units Pneumatic 1998

Kitchen: Hood Exhaust Fan Pneumatic 1968

Terminal/Unitary

Equipment (Continued)

Type Controls Date of

Installation

Condition

Corridors: Baseboard Radiation Pneumatic 1968

Toilets (original building): Exhaust System Pneumatic 1968

Toilets & Locker Rooms

(addition):

Unit Ventilators & Exhaust System Pneumatic 1998

Controls Type Manufacturer Date of

Installation

Condition

Energy Management Controls (hot water distribution system & night setback functions):

Direct Digital Controls (DDC) Johnson Controls 1998

Equipment Controllers Pneumatic Johnson

Controls 1968 & 1998

HVAC NOTES:

1. Mixture of original and new controls; air compressor replaced in 2002.

ELECTRICAL:

Rating Voltage Phase/Wiring Date of

Installation

Conditions

Service: 1600A 120/208 3-Phase/4-Wire 1969 3, Note

Westinghouse CDP

Type Service Provider Location Date of

Installation

Conditions

Transformer: Pad Mass. Electric Parking Lot N/A

Rating Energy Source Manufacturer Date of

Installation

Conditions

Emergency Generator: 15KW Diesel Kohler 1969 2, Note 5

Type Voltage Phase/Wiring Date of

Installation

Conditions

Distribution System: West/GE 120/208 3-Phase/4-Wire 1969/1996 1, Note 7

Grounded/Non Grounded Conditions

Devices –

Typical Classrooms:

Grounded duplex

Offices:

Fixture/Lamp Type Mounting Date of

Installation

Conditions

Lighting –

Typical Classrooms:

Note

1'x4' w/lens / T8 Wrap Surface 200

Offices: 2'x4' w/lens / T8 Wrap Surface 200

Library: Direct/Indirect T8 Pendant 200

Cafeteria: 2'x4' w/lens / T8 Recessed 200

Gym 18'x4' / T5HO W/cage Pendant 200

Corridor: 2'x4' w/lens / T8 w/some

C.F. downlights

Recessed 200

Lighting Controls: None

Fixture Type Mounting Date of
Installation

Conditions

Site Lighting -

Parking: Shoebox/Floods Pole-Steel+Wood 1969

1990's Lot: 30' Shoebox Pole 1990's

Building: Wall Packs/ Floods 1969/1990's 2/1,

Type Manufacturer Date of
Installation

Conditions

Security Systems – CCTV: (1) camera Ceiling

Recent

Door Access Controls: None

Security System: Zoned Aritech Surface/Wall 90's

Motion Detectors: N/A N/A Surface/Wall 1970's 1, Note 9

Master Clock: Mechanical Standard Surface/Wall 1960's 0

Bell: Standard- 1400 Surface/Wall 1980's

P.A. System – Typical

Classrooms:

Speaker N/A Surface/Wall 1969

Corridors: Speaker N/A Surface/Wall 1969

Quantity/Type Manufacturer CATV Date of
Installation
Conditions
Data -
Library: 30 Cat 5e Yes 1990's
Classroom: 2, Note Cat 5 (1) Outlet 1990's
Telephone System - Executone Note 6 199
Administration: Digital —
Multi-line

Classroom: Digital-One-
line

Type Manufacturer Controls Date of
Installation
Conditions
Local Sound Systems –
Gym:

Soundsphere /Speakers

N/A

1990's

Café: Small Peavey/
WMA-150
1990's

Type Manufacturer Controls Date of
Installation
Conditions
Emergency Lighting: Recessed N/A Separate Sys.-Note 5 1969
1990's Addition: EBU/Heads Mixed 1990's

Type Manufacturer Notifications Date of
Installation
Conditions
Fire Alarm System: Addressable Siemens/
Cerberus
General 1998

Detector Type Alarm Signal
Type

Pull Station Date of
Installation
Conditions
Devices –
Typical Classrooms:

HS/SD

Offices: HS/SD
Library: SD/HS
Café: SD/HS
Gym: HS
Lobby/Corridor: SD
Kitchen: HD
Toilets: HS
Bathrooms: HS-some
have no
coverage

Yes — ADA Height

HS — Horn/Strobe, SD — Smoke Detector, HD — Heat Detector

ELECTRICAL NOTES:

1. Many classes have smart boards and ceiling projectors. All other classes have power for projectors above the ceiling.
2. Space for additional breakers for distribution, and possible space for new section.
3. Light fixtures mostly new or with new lamps and ballasts done in 200 by Mass. Electric program.
4. Strobe coverage is fairly good, with some areas that would require additional devices to comply with latest code.
5. Generator and system not in separate 2-hour rated space, does not meet current code. Small generator, does not cover entire building (1990's addition) or any stand-by loads (heat protection). Separate light system for life safety, comes on only on loss of normal power.
6. Telephone system tied into P.A. system.
7. Original 1969 panels fairly old. There may be difficulty in finding repair parts and breakers. Spare capacity in panels is very limited.
8. Many fixtures have broken or damaged lens'. 1990's addition fixtures are in poor condition.
9. Motion detectors appear to be original. All of these detectors should be tested for functionality, and at least replace where necessary. Newer devices would be more reliable.
10. Master clock controls are inoperative and should be replaced.

PROVISIONS FOR ACCESSIBILITY:

Exterior Accessible Route

Accessible Route: See Site Data for info.

Width Material Hardware Conditions

Primary Entrance: - 5'-0" pairs of doors HM Glazed Pushbar

Exterior/Egress Doors: 36", 5'-0" HM Pushbar

Signage: OK

Interior Accessible Route Width Material Hardware Conditions

Accessible Route: 8'-0" Terrazzo, VCT Pushbar

Entrance Vestibules: 5'-0" W., x 6'-0" D. Rubber drainable tiles Pushbars

Interior Doorways –

Classrooms:

36" WD, HM Lever

Offices: 36" WD Lever

Library: 36" WD Pushbar

Auditorium / Stage: HC Lift to stage HM Glazed

Gym/Cafeteria/Kitchen: 6'-0", 6'-0", 36" WD, HM Pushbar

Cross – Corridor: 5'-0" Unequal leaf doors HM Pushbar

Stairs: 12'-0" No doors

Toilets: 36" HM Pushbar

Size Conditions

Vertical Access:

(Elevators/Lifts)

New 4' x 6'-6" Elevator

Width Floor Surface Handrail/Guard

Heights

Conditions

Stairways: 12'-0" Terrazzo Not per Code

Ramps: to Library VCT OK

Clear Floor Space/Turning Radius Toilet

Partitions

Conditions

Toilet Rooms: All are accessible, however some entry doors are not accessible

OK

Tables & Seating –

Cafeteria:

Accessible

Drinking Fountains: are accessible

Public Tele: None

Controls: OK at elevator

Signage: Not much HC signage

Emergency Alarms: Yes, in place

SOUTH ELEMENTARY SCHOOL

GENERAL INFORMATION:

Name of School: SOUTH ELEMENTARY SCHOOL

Address: 90 Main Street
Grafton, Massachusetts 01519

Name of Owner: Town of Grafton

Grade Levels Served: K, 1,

Student Population: 396 School Year 2005 — 06

Years in Service: 30

Year Constructed: 1975 Designer: Hughes and McCarthy

Additions: Designer:

Existing Drawings: Have existing drawings in the office

INVENTORY OF EDUCATIONAL SPACE:

Description (in Regulations) Number Square Feet Location (B, G, U)

BASIC EDUCATIONAL SPACE Pre-Kindergarten (1200-1300):

Kindergarten (1200-1300): 2,520 sf U

General Class (900-1000): 3/9 10,790 sf G/U

Art (1000-1200): 910 sf G

Music Rooms (1000-1200): 1,025 sf U

Ensemble (up to 200):

Practice (72-130): 90 sf U

Science/Computer (1000-1200):

Shops (1500-1800):

Homemaking (1200-1400):

Media Center/Library (1800-3000): 3,430 sf G

Physical Education (1800-3000): 3,920 sf G

Special Needs (as needed): 3,490 sf G

Remedial (as needed): 115 sf G

Collaborative (as needed):

Subtotal - Basic Educational Space: 26,290 sf

MISC. EDUCATIONAL SPACE Cafeteria (Note 1):

Cafetorium (Note 1): 2,640 sf U

Stage: Guidance (as needed):

Office:

Counseling:

Waiting:

Health Suite: Office: 205 sf U

Examining Room:

Rest Areas:

Kitchen (Note 2): 1,385 sf U
Administration: Principal: 255 sf U
Asst. Principal:
General Office: 315 sf U
Conference:
Other (up to
800):
90 sf U
Planning Room:
Teacher Dining Room: 395 sf U
Auditorium (Note 3):
Physical Education: Lockers: 710 sf U
Storage: 305 sf U
Subtotal - Misc. Educational Space: 6,300 sf
TOTAL - Educational Space: 32,590 sf

CONSTRUCTION CLASSIFICATION DATA:

Construction Type: (from State Building Code)
Original Building: 2B — Non-combustible, protected
Addition 1:
Addition 2:
Occupancy Group: E - Educational
Area Sub-Basement:
Basement:
Ground Floor: 23,7 GSF
Upper Floors – 2nd: 28,58 GSF
Upper Floors – 3rd :
Total: 52,295 GSF

Height # of Stories
Original Building: 36'-4" to roof peaks
Addition 1:
Addition 2:

SITE DATA:

Description
Land Used: 55% South Elementary; 45% Athletic Fields & Play Grounds
Lot Area: Acres
Topography: Slopes south to north, towards Blackstone River
Wetlands: To north and east beyond R/R tracks near River

Size: Material: Source: Date Installed Conditions
(If septic system – verify if aggregate systems applies)

Utilities –Sanitary: 8” PVC Town Engineer Note
Water: 4” South Grafton
Water Dept.

Electricity: Underground
Gas: Yes 1975 Plans
Oil Tank: at Loading Dock 1975 Plans
Storm Water
Management:
2.5’ sump CBs 1975 Plans Note
Athletic Fields – Field 1: 10,000 SF Grass (baseball) 1975 Plans &
Site Visit
1970s
Field 2: 20,000 SF Grass 1975 Plans &
Site Visit
1970s
Field 3: None
Track: None
Tennis Courts: None
Basketball Courts: None
Playground/Total Lot: 3,000 SF Site Visit

Type: Source Date Installed Conditions
Site Lighting: Yes Site Visit
Fire Hydrant: Near Site Site Visit

Spaces Material Date Installed Conditions
Parking – Lot 1/2/3: 9/ Bit. Conc. 1970s 2; Note
Bus Drop/Pick-Up Area: 220’ Bit. Conc. 1970s
Parent Drop/Pick-Up Area: None
Loading & Service Dock Bit. Conc. 1970s
Signage: Yes
Trash Management Area: N/A

PROVISIONS FOR ACCESSIBILITY:

Exterior – Accessible
Route
Width Material Conditions
Curb Cuts: Vertical Granite Curb
Walkways: Bituminous Concrete 2; Note
Ramps: Concrete
Parking: Spaces Bituminous Concrete

SITE NOTES:

1. Septic tank and leaching field (6,500 SF) installed in the 1970s. Leaching

- field presently retired by a sewer connection to municipal sewer system.
2. Site drains to a major drain line that runs across the athletic field. Major drain line constructed in 1970s to contain an intermittent stream. Final outlet is beyond the R/R tracks and into the wetlands adjacent to the Blackstone River.
 3. Numerous transverse and longitudinal cracks, especially in paved playground area at rear of school.
 4. No wheel chair ramps at crosswalks at Main Street near site entrance.

BUILDING SYSTEMS & ASSEMBLIES OF ORIGINAL BUILDINGS:

Structure Material – Original Building Material – Addition Conditions

Foundation System: 10”-14” thick concrete foundation

walls on continuous wall footings;

Isolated spread footings located below columns.

Vertical Support Systems: Rectangular hollow steel columns;

Load bearing, non-reinforced masonry walls.

Ground Floor Framing System:

5” thick concrete slab-on-grade.

Upper Floor Framing

System:

½” concrete on 9/16” x28 ga. metal form deck, supported by steel joists.

The joists are supported by a combination of N-type trusses and wide flange steel girders.

Roof Framing System: ½” metal deck on steel joists, supported by N-type trusses and wide flange steel beams.

Lateral Force Resisting System:

Exterior and interior non-reinforced concrete block and brick masonry walls.

Exterior Envelope Material – Original Building Material – Addition Conditions

Roof Assembly: Steel deck, insulation, plywood, asphalt shingles

Windows: Aluminum windows, double glazed

Glazed C- Wall: Aluminum windows, double glazed

Doors – Exterior: Aluminum single glazed, some HM

Interior: Wood, glazed

Cross-Corridor: Wood, glazed

Hardware: Mostly knobs

Interior Finishes Material – Walls & Floors & Ceilings

Original Building

Material – Walls & Floors
& Ceilings

Addition

Conditions

Typical Classrooms: GWB, VCT*, Carpet, Plaster*, Some moveable walls in poor condition between CR's

Offices: GWB, VCT*, Carpet, Plaster*

Gym: CMU, Wood Floor*, Exposed Metal
Deck

Cafeteria: GWB, Carpet, Plaster*

Library: GWB, Carpet, Plaster* ceiling and soffits, but in story space lacks smoke curtain

Auditorium: See Cafeteria

Corridors: GWB, WD rail, Carpet, Plaster*

Stairs: GWB, Carpet, Plaster*

Toilets: CT, CT, 2x ACT

Kitchen: CT, CT, 2x Clean ACT

Service/Mechanical: CMU, Conc, Plaster*

ABBREVIATIONS:

CMU — Concrete Masonry Unit, or Concrete Block

Alum — Aluminum

HM — Hollow Metal

VCT — Vinyl Composition Tile

Clg — Ceiling

ACT — Acoustic Tile Ceiling

GWB — Gypsum Wallboard

SCFT — Structural Clay Facing Tile

VT — Vinyl Treads

CT — Ceramic Tile

* — Suspected Asbestos Containing Material, See report by Smith & Wessel Associates, Inc., in the Appendix

PLUMBING SYSTEM:

Service Pipe

Size

Meter Size Pressure

Regulator

Oper.

Pressure
Pipe
Material
Source Age Miscellaneous
Water: N/A - Copper Town 30 yrs
Gas: N/A 1400 CFH 4-7" w.c. CI Utility 30 yrs

System Pipe Material / Condition Type Insulation /
Condition
Miscellaneous
Domestic Cold Water: Copper / good Backflow Preventer on Irrigation only —
No Master
Domestic Hot Water:
Copper / average
Sanitary Waste & Vent:
Cast Iron / average
Storm Drainage:
Cast Iron / good
Gas:
Steel / Average
Non-Potable (Lab) CW:
None
Non-Potable (Lab) HW: None

Acid (Lab) Waste & Vent: None

Kitchen Waste: None

Tempered Water: None

Equipment Type/Fuel Age Condition Miscellaneous

Domestic Water Heater: Instantaneous HW

s HW

Heater/Gas

Original

l

— Note Detail Heater is in poor condition and appears near its end of serviceable life.

Sanitary Ejector Pump: None

Storm Ejector Pump: None

Domestic Water Booster Pump: None

Interior Kitchen Grease Trap: Point of use

Plumbing Fixtures Type/

Installation

Low Consumption

/Metering

Accessible Condition Miscellaneous

Water Closet: FV / wall & floor

No Note Generally non-compliant w/MAAB, some accessible fixtures.

Urinal: FV/wall No Yes

Lavatory: VC /wall No Note

Drinking Fountain/Water

Cooler:

Classroom Sink:

Classroom Bubbler/Drinking

Fountain:

Mop Sink: Sink / floor N/A N/A

Showers: Abandoned No longer in service.

Miscellaneous Fixtures: Miscellaneous

Hose Bibb:

Wall Hydrant: Wall hydrants do not have back flow prevention.

Floor Drain: No Trap Primers visible

Emergency Shower / Eyewash: N/A

Emergency Eyewash: N/A

Lab Faucets: N/A

Lab Gas Cocks: N/A

PLUMBING NOTES:

1. Plumbing systems in general are original equipment and in good condition.

Some of the piping and pipe joints in the boiler room show signs of corrosion and will require periodic inspection and associated repair.

FIRE PROTECTION:

Water Service Size Backflow Preventer/Type Pipe Material Pressure Condition

Miscellaneous

There is no fire suppression system

Fire Pump GPM Pressure Age Condition Test

Header

Auto

Transfer

MFR/Model No. / HP

None

Jockey Pump Age Condition Miscellaneous

None

Sprinkler System Pipe Material Age Condition Miscellaneous

Wet Sprinkler: N/A
Dry Sprinkler: N/A

Sprinkler Design FS or ACV Pipe Sch. or
Hyd. Calcs
GPM PSI Density Miscellaneous
Wet Sprinkler: N/A
Dry Sprinkler: N/A

Standpipe FDV-Main or Interm.
Landing
FDV/FHC in
Audit/Stage
FDV Size Miscellaneous
Wet Sprinkler: None

Fire Department
Connection
Quantity Type Location(s) Miscellaneous
N/A

HEATING, VENTILATING & AIR CONDITIONING SYSTEMS:

Centralized Systems Energy
Source
Type Manufacturer Date
Installed
Condition
Heating Equipment: # oil &
natural gas
Cast Iron
Boiler
Weil McClain 4550
MBH boiler w/
Gordon Piatt burner
1975

Distribution Type Date
Installed
Condition
Distribution Equipment #1: Base mounted hot water pumps, steel piping, and accessories.
1975
Distribution Equipment #2: Overhead ductwork serving the Cafeteria,
Gymnasium, and Media Center
1975

Terminal/Unitary
Equipment
Type Controls Date
Installed
Condition
Typical Classroom: Unit Ventilators w/ individual Exhaust Fans & Baseboard Radiation
Pneumatic 1975 (See note 1)
Administration Offices: Split System Air
Conditioning Unit (indoor ducted air handler w/ roof mounted condensing unit)
Pneumatic 1975
Media Center: Heating & Ventilating Unit Pneumatic 1975 0 (See note 2)
Cafeteria: Heating & Ventilating Unit Pneumatic 1975
Gym: Heating & Ventilating Unit Pneumatic 1975 (noisy)
Kitchen: Heating & Ventilating Unit;
Hood Exhaust Fan
Pneumatic 1975
Corridors: Cabinet Unit Heaters & transfer air from classrooms (provide ventilation)
Pneumatic 1975
Toilets: Exhaust Fan Electronic 1975

Controls Type Manufacturer Date
Installed
Condition
Energy Management
Controls (HW distribution system & night setback functions):
Direct Digital Controls (DDC) Johnson Controls 200
Equipment Controllers: Pneumatic Honeywell &
Johnson Controls 1975 & 200

HVAC NOTES:

1. Unit Ventilators require constant service. Difficult to maintain proper temperatures in Classrooms. Would recommend moving thermostats from the exterior wall to an interior wall close to the doorway.
2. Unit inoperable for many years — space not provided with proper ventilation per code.
3. Mixture of original and new controls; air compressor replaced in 2001.

ELECTRICAL:

Rating Voltage Phase/Wiring Date of
Installation
Conditions
Service: 1200A 120/208 3-Phase/4-Wire 1975 2, Note
Federal Pacif. CDP

Type Service Provider Location Conditions
Transformer: Pad Mass. Electric Parking Lot N/A

Rating Energy Source Manufacturer Date of
Installation
Conditions
Emergency Generator: 10KW Natural Gas Winco 1975 2, Note

Type Date of
Installation
Conditions
Distribution System: Federal Pacif. 120/208 3-Phase/4-Wire 1975

Grounded/Non Grounded Conditions
Devices –
Typical Classrooms:
Grounded duplex
Offices:

Fixture/Lamp Type Mounting Date of
Installation
Conditions
Lighting –
Typical Classrooms:
Note 1’x4’ w/lens / T8 Wrap Surface 200

Offices: 2’x4’ w/lens / T8 Wrap Surface 200
Library: 2’x4’ w/lens Surface 200
Cafeteria: 2’x4’ w/lens / T8 Recessed 200
Gym: 18’x4’ / T5HO W/cage Pendant 200
Corridor: Direct/Indirect / T8 Surface/Wall 200
Lighting Controls: None

Fixture Type Mounting Date of
Installation
Conditions
Site Lighting -
Parking: Shoebox/Flood Pole-Steel 1975
Building: Wall Packs/ Floods 1975

Type Manufacturer Date of
Installation
Conditions

Security Systems – CCTV: None Found
Door Access Controls: None
Security System: Zoned Napco-
SS4516 Surface/Wall 1996
Motion Detectors: Yes N/A Surface/Wall 1996
Master Clock: Electronic Simplex Surface/Wall 1990's 1, Note 6
Bell: Inoperative 0, Note 7
P.A. System: Electronic Simplex-5100 Rack 1990's
Corridors: Speaker N/A Recessed/Wall 1975
Classrooms: Speaker N/A Recessed/Wall 1975

Quantity/Type Manufacturer CATV Date of
Installation
Conditions
Data -
Library: 30 Cat 5e Yes 1990's
Classroom: Cat 5 (1) Outlet 1990's 3, Note 5
Telephone System - Executone 1998/200
Administration: Digital —
Multi-line
Classroom: Digital-One-
line Wall mounted

Type Manufacturer Controls Date of
Installation
Conditions
Local Sound Systems –
Café: Small DuKane 1975

Type Manufacturer Controls Date of
Installation
Conditions
Emergency Lighting: By Emerg.
Generator N/A 1975

Type Manufacturer Notifications Date of
Installation
Conditions
Fire Alarm System: Zoned/
Hardwired Simplex General 1975

Detector Type Alarm Signal
Type
Pull Station Date of

Installation
Conditions
Devices –
Typical Classrooms:

None
Offices: HS/SD
Library: SD/HS
Café: SD/HS
Gym: HS
Lobby/Corridor: HD
Kitchen: HD
Toilets: None
Bathrooms: HS-some have no coverage

Yes — ADA Height
HS — Horn/Strobe, SD — Smoke Detector, HD — Heat Detector

ELECTRICAL NOTES:

1. Generator and system not in separate 2-hour rated space, does not meet current code.
2. Space for additional breakers for distribution, and no space for new section.
3. Light fixtures mostly new or with new lamps and ballasts done in 200 by Mass. Electric program.
4. Strobes are non ADA compliant for strobe intensity new devices would be required to comply with latest code.
5. Some wireless data hubs found in corridors.
6. Some clocks not working.
7. The bell system is inoperative and should be replaced.

PROVISIONS FOR ACCESSIBILITY:

Exterior Accessible Route
Accessible Route: See Site Data for info.

Exterior Doors Width Material Hardware Conditions
Primary Entrance: 14'-0", 42" Doors Alum glazed Pushbar
Exterior/Egress Doors: 36", 42" Alum glazed, some HM Pushbar
Signage: Not much signage

Interior Accessible Route Width Material Hardware Conditions
Accessible Route: 6', 7', 8' Mostly carpet
Entrance Vestibules: None
Interior Doorways –
Classrooms:
36" WD Knob

Offices: 36" WD Knob
Library: 6'-0" WD Pushbar
Auditorium / Stage: None
Gym/Cafeteria/Kitchen: 42" WD Thumbplate, Pushbar

Cross – Corridor: 6'-0" WD Pushbar
Stairs: 6'-0" WD Pushbar
Toilets: 36" WD Knob

Size Conditions
Vertical Access:
(Elevators/Lifts)
4'-0" x 4'-6"
Not totally Accessible
type
Steel Typical

Width Floor Surface Handrail/Guard Heights
Conditions

Stairways: 4'-0" CPT Not per Code

Ramps: Many, 4'-0" W. is smallest
CPT, VCT Not per Code

Clear Floor Space/Turning Radius Toilet
Partitions
Conditions

Toilet Rooms: Single- use type toilet room of each sex is accessible, all others are not accessible

Tables & Seating –
Cafeteria:
Accessible
Drinking Fountains: None are per Code
Public Tele: None

Controls: Not per Code at elevator

Signage: Not much signage

Emergency Alarms: In place per Code

GRAFTON MUNICIPAL BUILDING

Name of School: GRAFTON MUNICIPAL BUILDING (OLD JUNIOR/SENIOR H.S.)

Address: Providence Highway
Grafton, Massachusetts 01519

Name of Owner: Town of Grafton
Grade Levels Served: None at present
Student Population: None at present
Years in Service: 55
Year Constructed: 1950 Designer: Sturgis Associates
Additions: Recent renovations at South end for Senior Center
Designer: Not Known
Existing Drawings: Have some original drawings in office
Building Gross SF: 56,850 GSF
Current Population: Used as the Grafton Municipal Office Building

CONSTRUCTION CLASSIFICATION DATA:

Construction Type: (from State Building Code)
Original Building: 2B Non Combustible — Protected
Addition 1:
Addition 2:
Occupancy Group: Presently B - Business
Area Sub-Basement:
Basement: 1,360 GSF
Ground Floor: 36,66 GSF
Upper Floors – 2nd: 18,828 GSF
Upper Floors – 3rd :
Total: 56,850 GSF

Height # of Stories
Height/Stories:
Original Building: 24'-0" +/- at Classrooms, 30'-0" at Gym
Addition 1:
Addition 2:

SITE DATA:

Description
Land Used: 30% Municipal Complex; 50% Athletic Fields; 20% High School
Lot Area: 46.5 acres (Note 2)
Topography: Predominantly flat with steep slopes so Ripple Lake, Municipal Complex on slight

hill.

Wetlands: Along Ripple Lake shore and Bank of Quinsigamond River

Size: Material: Source: Date Installed Conditions

(If septic system – verify if aggregate systems applies)

Utilities –Sanitary:

Water:

Electricity: Overhead

Gas: None

Oil Tank: (2) 10,000 Gal. Single wall steel On-site staff 1950's Unknown

Note

Storm Water Management:

4' sumps to municipal drain to Ripple Lake

Athletic Fields – Field 1: 120,000 SF Grass (base softball)

Site visit & aerials

Field 2: 31,000 SF Grass (football) Site visit & aerials

Field 3: 29,000 SF Grass (soccer) Site visit & aerials

Track: 900 LF Bituminous concrete Site visit & aerials

Tennis Courts: courts Bituminous concrete Site visit & aerials

Basketball Courts: courts Bituminous concrete Site visit & aerials

Playground/Total Lot: Site visit & aerials

Type: Source Date Installed Conditions

Site Lighting: Yes Site visit

Fire Hydrant: M

Spaces Material Date Installed Conditions

Parking – Lot 1/2/3: 22/1 — Note

Bus Drop/Pick-Up Area: N/A

Parent Drop/Pick-Up Area: N/A

Loading & Service N/A

Signage: Yes

Trash Management Area:

PROVISIONS FOR ACCESSIBILITY:

Exterior – Accessible

Route

Width Material Conditions

Accessible Route:

Curb Cuts: Cementitious concrete curb

Walkways: Bituminous concrete sidewalks 2; Note

Ramps: N/A

Parking: M

SITE NOTES:

1. The age and condition of the two (2) 10,000 gallon oil tanks is not known. They have been retrofitted with overfill valves and spill buckets. “Tightness” testing has not been conducted since the early 90’s. Due to their ages and the lack of cathodic protection these tanks have lived beyond their expected life. “Tightness” testing should be carried out.
2. Municipal Complex occupies the same site as the High School. The athletic field information is duplicated in the High School Section.
3. Significant erosion at edge of pavement along entrance drives due to lack of curbs or berms.
4. Sidewalks from Municipal Complex to Brigham Hill Road. Sidewalk is steep and may not be ADA compliant.

BUILDING SYSTEMS & ASSEMBLIES OR ORIGINAL BUILDINGS:

Structure Material Remarks Conditions

Foundation System: 12”-20” thick concrete perimeter foundation walls on continuous wall footings; Isolated spread footings below columns.

Minor shrinkage cracking visible in foundation walls.

Vertical Support Systems: Wide flange steel columns, and steel pipe columns.

Ground Floor Framing System:

Gymnasium: wood planking of 2x8 wood joists and 8x10 wood girders. Senior Center: 4” thick concrete slab- on-grade.

Corridors and classrooms: ½” thick concrete slab and 9/16” metal form deck on steel joist supported by wide flange steel beams and foundation walls.

Upper Floor Framing System:

½” thick concrete slab and 9/16” metal form deck on steel floor joists and wide flange steel beams.

Roof Framing System: Gymnasium: 2” tongue and groove wood planking on wide flange steel purlins, supported by steel roof trusses .

Corridors and Classrooms: 3” thick concrete slab and 9/16” metal form deck on steel

joists and wide flange steel girders.

Lateral Force Resisting System:
Exterior and interior masonry walls.

Several cracks visible in exterior brick masonry.
Possible water infiltration.

Exterior Envelope Material – Original Building Additions Conditions
Roof Assembly: Conc. Slab, insulation, PVC
Membrane, Membrane on Wd deck
in Gym

Windows: Retrofitted Alum. Double glazed
Glazed C- Wall: Alum. Dbl. Glaze
Doors – Exterior: Alum glazed
Interior: Wood glazed, Some HM
Cross-Corridor: Wood
Hardware: Mostly Knob

Interior Material – Walls & Floors & Ceilings Date of Installation Conditions
Typical Classrooms: CMU, some GWB, Carpet, Plaster,
ACT

Offices: CMU, Carpet, some VCT*, 2x ACT
Gym: CMU, Wood Gym Floor*, Wd roof
deck

Senior Center /Cafeteria: CMU, VCT*, Carpet, Plaster, 2x ACT
Library:
Auditorium: See Gym
Corridors: Struct'l Glazed Block, CMU, Plaster,
VCT, Plaster

Stairs: Struct'l Glazed Block, VCT*, Plaster,
Vinyl Treads

Toilets: CT, CT, Plaster
Kitchen: CMU, VCT*, Plaster
Service/Mechanical: CMU, Concrete, Concrete, Plaster

ABBREVIATIONS:

CMU — Concrete Masonry Unit, or Concrete Block
Alum — Aluminum

HM — Hollow Metal
VCT — Vinyl Composition Tile
Clg — Ceiling
ACT — Acoustic Tile Ceiling
GWB — Gypsum Wallboard
SCFT — Structural Clay Facing Tile
VT — Vinyl Treads
CT — Ceramic Tile
* — Suspected Asbestos Containing Material, See report by Smith & Wessel Associates, Inc., in the Appendix

PLUMBING SYSTEM:

Service Pipe
Size
Meter Size Pressure
Regulator
Oper.
Pressure
Pipe
Material
Source Age Miscellaneous
Water: 4" Cast Iron Original 3" Main
Gas: 1" 425 CFH Low Pressure Steel Utility Good Condition

System Pipe Material / Condition Type Insulation /
Condition
Miscellaneous
Domestic Cold Water: Copper / good
Domestic Hot Water: Copper / good
Sanitary Waste & Vent: Cast Iron / good
Storm Drainage: Cast Iron / good
PVC (gym) / good
Gas: Steel
Non-Potable (Lab) CW: None
Non-Potable (Lab) HW: None
Acid (Lab) Waste & Vent: None
Kitchen Waste: None
Tempered Water: None

Equipment Type/Fuel Age Condition Miscellaneous
Domestic Water Heater: Gas-fired water heater 1960 / 1980 500 Gallon Receiver 200
Gallon Receiver
Sanitary Ejector Pump: None
Storm Ejector Pump: None
Domestic Water Booster Pump: None

Interior Kitchen Grease Trap: Point of use Unknown Reportedly serviced (2) times per year.

Plumbing Fixtures Type/
Installation
Low Consump
/Metering
Accessible Condition Miscellaneous
Water Closet: FV / wall &
floor
No Yes Old Fixtures (original)
Urinal: FV/wall No Yes
Lavatory: VC /wall No Yes
Drinking Fountain/Water
Cooler:
M
Classroom Sink: N/A
Classroom Bubbler / Drinking
Fountain:
N/A
Mop Sink:
Showers: N/A

Miscellaneous Fixtures Miscellaneous

Hose Bibb: N/A
Wall Hydrant: None
Floor Drain: Mechanical Rooms
Emergency Shower / Eyewash: None
Emergency Eyewash: N/A
Lab Faucets: N/A
Lab Gas Cocks: N/A
PLUMBING NOTES:

FIRE PROTECTION
Water Service Size Backflow
Preventer /
Type
Pipe Material Pressure Condition Miscellaneous
There is no fire suppression system

Fire Pump GPM Pressure Age Condition Test
Header Auto Transfer MFR/Model No. / HP
None

Jockey Pump Age Condition Miscellaneous
None

Sprinkler System Pipe Material Age Condition Miscellaneous
Wet Sprinkler: N/A
Dry Sprinkler: N/A

Sprinkler Design FS or ACV Pipe Sch. or
Hyd. Calcs
GPM PSI Density Miscellaneous
Wet Sprinkler: N/A
Dry Sprinkler: N/A

Standpipe FDV-Main or Interm.
Landing
FDV/FHC in
Audit/Stage
FDV Size Miscellaneous
Wet Sprinkler: None

Fire Department
Connection
Quantity Type Location(s) Miscellaneous

HEATING & VENTILATING SYSTEMS:

Centralized Systems Energy

Source

Type Manufacturer Date of

Installation

Condition

Heating Equipment #1: # oil & natural gas Steam Cast Iron Boiler Burnham w/
Gordon Piatt burner 1950

Heating Equipment #2: # oil Modular Cast Iron Boilers Peerless 199

Distribution Type Date of

Installation

Condition

Distribution Equipment #1: Steam piping and accessories. 1950

Distribution Equipment #2: Overhead ductwork serves the Gymnasium & Senior Center
1950

Terminal/Unitary
Equipment
Type Controls Date of
Installation
Condition

Typical Large
Room/Office:

Steam Unit Ventilators w/ Common Exhaust System Pneumatic 1950

Typical Small
Room/Office:

Steam Convectors Pneumatic 1950

Senior Center: Steam Unit Ventilators provide heat & ventilation. Pneumatic 1950

Senior Center: Two 5-ton Rooftop Units provide air conditioning. Electronic 200

Gym: Heating & Ventilating Unit Pneumatic 1950 (hot water coil leaking)

Kitchen: Hood Exhaust Fan Pneumatic N/A

Toilets: Exhaust System Pneumatic N/A

Controls Type Manufacturer Date of Installation
Condition

Equipment Controllers Pneumatic Johnson

Controls N/A

HVAC NOTES:

1. Mechanical ventilation is not provided for these spaces.

ELECTRICAL:

Rating Voltage Phase/Wiring Date of
Installation

Conditions

Service: 1000A 120/208 3-Phase/4-Wire 2005 4, Note Square D

Type Location Conditions

Transformer: Pad Mass. Electric Side of Building 2005

Rating Energy Source Manufacturer Date of
Installation

Conditions

Generator: 150KW Diesel Kohler 2005 4, Note 5

Type Date of
Installation

Conditions

Distribution System: Square D,

Some old GE 120/208 3-Phase/4-Wire 1950's/2005 1/4

Grounded/Non Grounded Conditions
Devices –
Typical Classrooms: Grounded Mixed #'s

Offices: Note

Fixture/Lamp Type Mounting Date of
Installation
Conditions
Lighting –
Typical Classrooms: Note 2'x4' w/lens / T8? Recessed 1970's

Offices: 2'x4' w/lens / T8? Recessed 1970's
Gym: 400W HID, no cage Pendant 1970's
Kitchen 1'x4' w/lens Wrap / T Surface 1970's
Corridor: 1'x4' w/lens Wrap / T8 Surface 1970's
Lighting Controls: None
Stage: Incandescent Pendant 1960'0 1, Note 10

Fixture Type Mounting Date of
Installation
Conditions
Site Lighting -
Building: Wall Packs/ Floods 1969/1990's 2/1

Type Manufacturer Date of Installation
Conditions
Security Systems – CCTV:
None

Door Access Controls: None
Security System: Zoned DSC-PC300 90's
Motion Detectors: N/A N/A Surface/Wall 1970's 1, Note
Master Clock: New Control Surface/Wall 2005
Bell Note 7 Surface/Wall 1960's 1, Note
P.A. System – Typical
Classrooms: Speaker N/A Surface/Wall 1960's

Corridors: Speaker N/A Surface/Wall 1960's 1, Note

Quantity/Type Manufacturer CATV Date of
Installation

Conditions

Data - Note 7

Classroom: 2, Note Cat 5 1990's

Telephone System - Newer Comm Corp — 440CT 2000's

Classroom:

Type Manufacturer Controls Date of

Installation

Conditions

Local Sound Systems –

Gym

Tube Amp N/A 1960's

Type Conditions

Emergency Lighting: EBU/Heads Mixed 1970's

Exits: Led, some older N/A 1990's 4/1

Type Manufacturer Notifications Date of

Installation

Conditions

Fire Alarm System: Addressable Simplex-4005 General 1998

Detector Type Alarm Signal

Type

Pull Station Date of

Installation

Conditions

Devices –

Typical Classrooms: SD

Offices: HS/SD

Gym: SD/HS

Lobby/Corridor: SD

Kitchen: HD

Bathrooms: HS-some have no coverage Yes — ADA Height

HS — Horn/Strobe, SD — Smoke Detector, HD — Heat Detector

ELECTRICAL NOTES:

1. Space for additional breakers for distribution, and no space for new section.

New service installed inside a below grade closet, next to water service.

2. Light fixtures mostly new or with new lamps and ballasts done in 200 by Mass.

Electric program.

3. Strobe and smoke coverage would require additional devices to comply with latest code.

4. Classrooms converted to offices, receptacles have been installed where needed.

5. Generator reportedly backs up entire building, and is not considered for life safety. Old

abandoned generator should be removed.

6. Some lights replaced under a 1999-2000 renovation. Many areas still have older fixtures with T lamp technology.
7. Existing P.A./Bell/Data systems are no longer configured for school use, or are inoperative and would not meet today's standards.
8. Most visual devices are non ADA compliant for strobe intensity.
9. Limited capacity in most older panels. Original 1950's panels very old. There may be difficulty in finding repair parts and breakers for these panels and fused disconnects.
10. Very old, antiquated incandescent stage lighting system, wired with extension cord.
11. Some lens' on fixtures noted as damaged, and some areas with inadequate lighting.
12. Motion detectors appear to be original, or from circa 1960-70's. All of these detectors should be tested for functionality, and at least replace where necessary. Newer devices would be more reliable.
13. Appear to be original equipment, which have not been used in years. These systems appear to have been disconnected. School occupancy would require and updated integrated system.
14. Amplifier is an old tube style, which is most likely inoperative or functions poorly.
15. Many older style exit fixtures are inoperative, most likely due to the short life of incandescent lamps. These fixtures are very inefficient, and should be replaced with new LED type fixtures.

PROVISIONS FOR ACCESSIBILITY

Exterior Accessible Route

Accessible Route: See Site Data for info.

Width Material Hardware Conditions

Primary Entrance: 12'-0", 36" doors Alum. Glazed, WD glazed Pushbar 3,

Exterior/Egress Doors: 36" Alum Pushbar

Signage: Not much HC signage

Interior-Accessible Route Width Material Hardware Conditions

Accessible Route: 10'-0", 8'-0" VCT, Carpet

Entrance Vestibules: 7'-0" D. x 12'-0" W Alum, WD Pushbar 3,

Interior Doorways –

Classrooms:

36" WD/Pressed Meta Knob 3, Many doors are in recesses!

Offices: Same as classrooms above

Kitchen, at Senior Center: HM 36" Knob

Auditorium / Stage: See Gym Stage is not accessible

Gym/Cafeteria at Senior

Center:

6'-0" WD Pushbar

Cross – Corridor: 6'-0" HM Pushbar

Stairs: 6'-0" HM Pushbar
Toilets: 3'-0" WD Pushbar

Size Conditions
Vertical Access:
(Elevators/Lifts)
New Elevator 4'-0" x 6'-8" Accessible

Width Floor Surface Handrail/Guard Heights Conditions

Stairways: 4'-0" VCT, Vinyl Not per Code

Exterior front entry ramp: 4'-0" P.T.WD OK

Clear Floor Space/Turning Radius Toilet
Partitions
Conditions

Toilet Rooms: Public toilets upstairs are accessible, but doors are not per Code
OK

Tables & Seating –
Cafeteria:

Drinking Fountains: of is accessible

Public Tele: ?

Controls: OK at elevator

Signage: Not much HC signage

Emergency Alarms: No strobes in toilets and some other rooms, but are in corridors

Additional Building Specifications

Building	CENTER FIRE STATION (OLD)
Address	3 WORCESTER STREET
# floors	2
Square Footage	4,661
Year constructed	1950
Heat source	Gas
Heat type	Hot Water Rad.

Building	FAIRVIEW CEMETARY
Address	0
# floors	0
Square Footage	0

Year constructed 0
Heat source 0
Heat type 0

FIRE HOUSE MUSEUM

Building (#3)
Address 1 MAIN STREET
floors 2
Square Footage 695
Year constructed 1900
Heat source Gas
Heat type Forced Air

GRAFTON
ELEMENTARY

Building SCHOOL
Address 105 MILLBURY STREET
floors 2
Square Footage 97,496
Year constructed 2002
Heat source Gas
Heat type Hot Water

GRAFTON HIGH
SCHOOL

Address 30 PROVIDENCE ROAD
floors 2
Square Footage 71,846
Year constructed 1964
Heat source Oil/Gas
Heat type Forced Air

GRAFTON MIDDLE
SCHOOL

Address 60 NORTH STREET
floors 2
Square Footage 80,539
Year constructed 1969
Heat source Oil
Heat type 0

GRAFTON MUNICIPAL
CENTER

Address 30 PROVIDENCE ROAD
floors 2
Square Footage 38,879

Year constructed 1957
Heat source Oil/Gas
Heat type Forced Air

GRAFTON SCHOOL
ADMINISTRATION
ANNEX
Address 30 PROVIDENCE ROAD
floors 1
Square Footage 9,312
Year constructed 1957
Heat source Oil
Heat type Forced Air

HIGHWAY
DEPARTMENT (DPW)
Address 27 UPTON STREET
floors 1
Square Footage 8,344
Year constructed 1940
Heat source Gas
Heat type Space Heat

MILLBURY STREET
DUMP
Address 53 MILLBURY STREET
floors 1
Square Footage 540
Year constructed 1950
Heat source 0
Heat type 0

NELSON MEMORIAL
LIBRARY
Address 6 PRENTICE STREET
floors 1
Square Footage 3,156
Year constructed 1975
Heat source Gas
Heat type Hot Water

NEW CENTER FIRE
STATION
Address 26 UPTON STREET
floors 2
Square Footage 15,434

Year constructed 2007
Heat source Gas
Heat type Package A/C

Building NORTH GRAFTON
ELEMENTARY
SCHOOL
Address 46 WATERVILLE
STREET
floors 1
Square Footage 42,694
Year constructed 1955
Heat source Oil
Heat type Forced Air

Building NORTH GRAFTON FIRE
STATION
Address 2 MILL STREET
floors 0
Square Footage 0
Year constructed 0
Heat source 0
Heat type 0

Building OLD TOWN HALL
Address 1 GRAFTON COMMON
floors 3
Square Footage 12,004
Year constructed 1880
Heat source 0
Heat type Hot Water Rad.

Building PINE GROVE
CEMETARY
Address 0
floors 0
Square Footage 0
Year constructed 0
Heat source 0
Heat type 0

Building POLICE STATION
Address 30 PROVIDENCE ROAD
floors 2
Square Footage 16,436
Year constructed 2006

Heat source Gas
Heat type Space Heat

Building PUMP STATION
Address 9 DEPOT STREET
floors 2
Square Footage 17,960
Year constructed 1979
Heat source Oil
Heat type Hot Water

Building RIVERSIDE CEMETERY
Address 56 MILLBURY STREET
floors 1
Square Footage 432
Year constructed 1970
Heat source Gas
Heat type 0

Building SOUTH GRAFTON
COMMUNITY HOUSE
Address 27 MAIN STREET
floors 1
Square Footage 10,244
Year constructed 1920
Heat source Gas
Heat type Package A/C

Building SOUTH GRAFTON
ELEMENTARY
SCHOOL
Address 90 MAIN STREET
floors 2
Square Footage 49,278
Year constructed 1978
Heat source Gas
Heat type Hot Water

Building SOUTH GRAFTON FIRE
STATION
Address 94 MAIN STREET
floors 1
Square Footage 4,148
Year constructed 1969
Heat source Gas
Heat type Hot Water Rad.

SOUTH GRAFTON
BRANCH LIBRARY
71 MAIN STREET
1
2,978
1930
0
Forced Air

WHEELOCK LIBRARY
MAIN
35 GRAFTON COMMON
3
6,736
1800
Oil/Gas
Hot Water Rad.