LAMOUREUX · PAGANO
ASSOCIATES, ARCHITECTS
14 EAST WORCESTER STREET, WORCESTER, MASSACHUSETTS 01604
TELEPHONE: 508.752.2831 FAX: 508.757.7769 www.lamoureuxpagano.com

TOWN OF WEST BOYLSTON, MA

Needs Assessment / Feasibility Study

January 30, 2008

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PART 1 – INTRODUCTION

PURPOSE:

The Town of West Boylston selected Lamoureux Pagano Associates, Architects (LPA), in early 2007, to prepare a space needs assessment, cost estimate and site feasibility study for a Town Hall/Senior Center, a Police Station Facility, a Fire Station Facility, and a Department of Public Works facility. The Town proposed a new combined Town Offices/Senior Center building, renovated Police and Fire Department facilities, and a new Department of Public Works facility. Sites under consideration included the existing Mixter Town Offices site at 120 Prescott Street (including the separate existing leaching field parcel on Sterling Street/Route 12), the existing Police/Fire Station and DPW Garage site at 35-39 Worcester Street, and an undeveloped site on Paul X. Tivnan Drive.

PROCESS:

Phase 1 - Information Gathering:

- Programming questionnaires were prepared, distributed to Department Heads, collected and summarized.
- Department Heads were interviewed.
- Each proposed site was researched and documented from available sources such as previous studies, record Construction Documents, Town Assessor's maps, online GIS mapping, etc.
- Applicable codes and regulations (i.e. building, zoning, environmental, etc.) were determined.
- Site visits were made, by LPA and other consulting engineers, to field document existing conditions.
- Phase 1 summary was presented to the Building Committee.

Phase 2 - Assessment:

- Written programs for each Department, based on Phase 1 summaries and including descriptions of spaces, SF area, adjacencies, special requirements, etc., were prepared. Programs were developed for Town Offices, Senior Center, Police Department, Fire Department and Department of Public Works.
- Phase 1 site information was digitized into AutoCAD format drawings suitable for preliminary study purposes.
- Proposed sites and buildings were assessed, at a preliminary level, to confirm their suitability to support new construction, additions and/or renovations.
- Preliminary cost data, based on SF areas established by the Building Programs, was developed.
- Phase 2 summary was presented to the Building Committee.

Phase 3 - Design:

- Multiple preliminary design options were developed, in site plan graphic form, for new construction, additions and renovations.
- Preliminary cost data was developed for each design option.
- Merits and limitations of each design option were identified.
- Phase 3 interim summaries were presented to the Building Committee and a single design option selected for further refinement.
- The selected design option was refined (in terms of preliminary site/floor plans, elevations, sections, material selections, etc.) for presentation at Town Meeting.

Phase 4 - Recommendations:

- Written report and presentation graphics of the selected design option were prepared.
- Informational public forums were planned with Town Departments/Boards, abutters, citizen groups, etc.
- Recommendations were prepared for presentation at a Special Town Meeting.

EXECUTIVE SUMMARY:

The Mixter Building's limitations and deteriorating conditions were well documented in the 1997 Kang Associates, Inc. report. Little has been done to alleviate those conditions over the past ten years and the building's problems have become progressively worse. In December of 2007, while this report was being completed, the Mixter Building was declared unsafe by the Building Inspector and scheduled for evacuation by mid-January, 2008. The leaking roof, heavy snow and rain, and locations where the curtain walls are not secure were all cited as reasons for closing the building. The Town has since temporarily relocated the Town Offices and Senior Center. While the existing building itself is a strong candidate for demolition, the site offers excellent potential for continued use by the Town Offices and Senior Center, as well as other Town recreational use. This study recommends that a new 2-story Town Offices/Senior Center building be constructed behind the existing Mixter Building. It is proposed that the Mixter Building be demolished and a new parking area and playing field provided in its place. Site improvements, including regrading, utility connections, paving, landscaping, exterior lighting, etc., are also recommended.

The existing Police/Fire station is overcrowded and presently does not meet the needs of a modern-day public safety department. There are no detention cell facilities, requiring that detainees be brought offsite. There is also inadequate program space, requiring use of the adjacent DPW garage for evidence storage, exercise space and general storage. Neither Police nor Fire Departments have enough office space or lockers to meet current needs. Of particular concern to the Fire Department is the size of the apparatus garage bays. These are too narrow and not deep enough to access, service and maintain modern firefighting apparatus. This condition will become progressively more of an issue as the existing fire trucks are replaced with new equipment. The building does not meet current accessibility guidelines, and will require either upgrades to meet the code for new construction or waivers granted by the Architectural Access Board (AAB). The building is thermally inefficient and has experienced roof/ wall leaks over the years. The mechanical/electrical systems require updates to meet applicable codes. This study recommends that the existing building be renovated, and an addition constructed on the rear of the building, to meet the space needs of the Fire Department. The existing apparatus garage overhead door openings are proposed to be modified to provide adequate clearances. Site improvements, including regrading, utility connections, new paving, landscaping, exterior lighting, etc., are also recommended, in conjunction with the proposed renovation/alterations to the existing DPW garage, to create a combined public safety complex.

The existing DPW garage is a 1942 brick and wood timber building and is used as a repair/maintenance facility (lower level) and for DPW and Cemetery Commission offices (upper level). The Police and Fire Departments also utilize parts of the upper level as noted above. The building does not meet current accessibility guidelines, and will require either upgrades to meet the code for new construction or waivers granted by the AAB. The building is thermally inefficient and would benefit from furred interior walls with insulation. Mechanical/electrical systems are inadequate for the proposed use and require replacement. The study recommends that the existing building be renovated to meet the space needs of the Police Department.

In order to allow for a phased sequence of construction, it is imperative that the existing DPW facilities be relocated prior to the commencement of alterations/renovations. This study assumes that the Town, as part of a proposed construction waste/recycling transfer station on the Paul X. Tivnan Drive site, will also construct a new DPW facility at that site. Once the existing DPW garage is vacated (the Cemetery Commission will require temporary quarters), renovations can begin on the building. When those are completed, the Police Department will move into their new quarters, vacating a large part of the Police/Fire station and allowing work to begin on that building.

LIMITATIONS:

The scope of this study is limited to schematic design solutions. Cost data, in particular, is calculated on a square foot basis at this level of design. Existing conditions site plans were developed from available sources and are not, unless noted otherwise, based on field property line surveys, soil borings, wetlands delineation, etc. Exhaustive hazardous material surveys and testing were not conducted. Further design development and site investigation is recommended, once a schematic design is approved, to obtain more information.

PART 2 – EXISTING CONDITIONS

NARRATIVE:

Existing conditions were documented during a number of visits over the course of the year 2007. Site, structural and architectural assessments of each existing site/building are included on the following pages. Mechanical/Electrical assessments were also conducted and are included in the Appendices section.

During the course of documenting existing conditions, several issues were raised that prompted additional research and investigation. These are as follows:

- During the design phase, after existing conditions site plans were prepared, it became apparent that there were inconsistencies in the description of the site boundaries/property lines with regard to the Police/Fire station and DPW garage site. Because there was no deed on record with the Town for this parcel, it was recommended that the Building Committee authorize funds for a professional land surveyor to a) research the Town-owned and abutting parcels, b) analyze such research, c) form preliminary conclusions, and d) reconcile inconsistencies. R.E. Cameron & Associates, Inc. was engaged by the Town. Their report details inconsistencies in the north property line shape/ direction, as well as the lack of a deed for three parcels, and is attached in the Appendices section.

- As a result of the above report by R.E. Cameron & Associates, Inc., the recommendation was made that the Town proceed with a property line survey of the Police/Fire station and DPW garage parcel. A Request for Proposals for the survey work was issued by the Town; bids were received and were being evaluated at the time this study was written.

- Preliminary information obtained on the Massachusetts GIS website indicated an area of wetlands on the Mixter site, on the slope behind the existing Town Offices/Senior Center building. Due to the potential impact on design options, LPA recommended that a wetlands biologist perform wetlands delineation. Hancock Associates, Inc. was engaged by the Town, walked the site, and reported to the Town that there are no wetlands on the parcel.

- Once the Building Committee selected a single design option for further refinement, LPA recommended that a preliminary environmental site investigation/hazardous materials inspection be conducted on all of the proposed building sites. The Building Committee authorized LPA to expand their scope of services to include this work. Universal Environmental Consultants (UTC) was engaged by LPA to perform this work. UTC's scope of work included a limited subsurface geotechnical investigation program (test borings, groundwater monitoring wells, soil sampling and testing at each site) as well as a hazardous material survey (bulk samples collection, testing and recommendations) of the three existing buildings. The work was in progress, but not completed, at the time this study was written.

MIXTER TOWN OFFICES BUILDING:

I. SITE:

A. Address: 120 Prescott Street

B. Zoning District: Single Residence and General Residence (1/2 of parcel 38 abutting Route 12)

C. Assessor's Map: 125

D. Parcels: 30 (Mixter building) & 38 (leaching field), with sewer easement through parcel 42. Parcel 42 (existing private residence) has right-of-way access through parcel 38.

E. Area:

1. Parcel 30: 13.7 acres
2. Parcel 38: 2.97 acres

F. Parking: 4-accessible spaces, 50 regular spaces and additional space (unmarked) along either side of the entrance driveway. Bituminous pavement is in poor condition.

G. Loading Area(s): On-grade covered receiving area next to kitchen and north side of boiler room.

H. Site Utilities:

1. Water: 6" d. pipe to 8" main in Prescott Street
2. Sanitary: On-site septic system (on separate Town-owned parcel #38 adjacent to Rt. 12), sewer line runs through an easement on adjoining property. It was reported that there is public sewer on both Horseshoe Drive and Route 12 (8" d.; 8-9' deep, with adequate capacity to connect the proposed Town Offices/Senior Center flows).
3. Drainage: 1-catch basin in parking area (near LL baseball field), 1-yard inlet in front of building (south side of entry). Little League field reportedly floods during heavy rain.
4. Gas: 2" high-pressure underground service (from Horseshoe Drive) installed in 2002; meter is located on north wall of boiler room.
5. Electric: Overhead service, with pole-mounted transformers, from utility poles at north edge of property. Original pad-mounted transformer, at loading area, remains.
6. Emergency Generator: NA
7. Fuel Oil Tank(s): The 1997 Kang report references an existing underground fuel oil tank. An underground fuel tank was reportedly removed from the front of the building 4+ years ago. A MA Department of Fire Services permit was issued in May 2003 for the removal and disposal of a 10,000-gallon fuel oil tank.
8. LPG Tank(s): NA
9. Other: NA

I. Trash/Recycling Facilities:

1. Dumpster(s): One 3-4 CY roll-off dumpster
2. Compactor: NA
3. Other: NA

J. Materials Storage: NA

K. Athletic Fields/Facilities: Little League baseball field (west side of building) and basketball court with some playground equipment (east side of building).

L. Site Lighting: Floodlight fixtures mounted on flagpole (front of building) and wall/roof-mounted fixtures around perimeter building.

M. Outbuilding(s): NA

N. Landscaping: Brick planter box at entry. Flowering trees at front of building and in island next to flagpole. Mature stand of white pines south and east of the building.

O. Soils Type (per online USDA Web Soil Survey):

1. Parcel 30 (Mixter building):
   a. 305B – Paxton fine sandy loam, 3-8% slope.
   b. 305C – Paxton fine sandy loam, 8-15% slopes.
   c. Paxton soils are characterized as "well drained", not susceptible to ponding or flooding, and with 18-30" water table depth.
2. Parcel 38 (leaching field):
   a. 260B – Sudbury fine sandy loam, 3-8% slope. Sudbury soils are characterized as "moderately well drained", not susceptible to ponding or flooding, and with 18-36" water table depth.
   b. 245B – Hinckley sandy loam, 3-8% slope. Hinckley soils are characterized as "excessively drained", not susceptible to ponding or flooding, and with 80"+ water table depth.

P. Miscellaneous: Bituminous paved walkway to Horseshoe Drive stub.

II BUILDING:

A. Construction Date(s): Original construction 1960, with additions at each end (Selectmen's and Planning Board Meeting Rooms) added at a later date.

B. Construction Classification: 3B Noncombustible/Combustible Unprotected

C. Use Group(s):

1. Town Offices: B - Business (civic administration)
2. Senior Center: A3 - Assembly (recreation center)

D. Assessed Value: $1,248,500 (building only)

E. Height: One-story

F. Area: 29,850 SF (gross)

G. Structural System:

1. Foundations: Concrete
2. Floor Framing: Slab-on-grade
3. Exterior Walls: CMU with brick veneer
4. Roof Framing:
   a. Low roofs: Open web steel joists with acoustical steel deck; poor condition
   b. Monitor roofs: Glue-laminated wood beams and steel beams

H. Thermal/Moisture Building Envelope:

1. Exterior Wall Construction: Brick veneer
2. Windows: Aluminum projected, mill finish, single-glazed
3. Doors:
   a. Entry: Aluminum doors and framing, mill finish, single-glazed
   b. At classrooms: Wood, single-glazed, in aluminum framing; poor condition
   c. Other: Hollow metal doors and frames
4. Roof Construction:
   a. Low-slope roofing: Tar and gravel with copper drip edge flashing and scuppers; extremely poor condition
   b. Fascias: Wood; poor condition
   c. Soffits: Plywood, painted, with battens; poor condition
   d. Skylights: Plastic fixed bubbles; poor condition
5. Protected Construction: NA
6. Other: No vestibules at any entrances

I. Interior Finishes:

1. Typical Partition Construction: 8" CMU
2. Flooring: 9" x 9" VAT, some carpet (Selectmen's Meeting Room)
3. Base: Vinyl at carpet
4. Walls:
   a. Typical: Painted CMU; some cracks were observed
   b. Corridors: Glazed tile with painted CMU above
   c. Lobby: Exposed brick
5. Ceilings:
   a. Typical: Exposed structure, painted
   b. Open spaces below roof monitors: Insulated-back 2' x 4' ACT system; poor condition
6. Millwork/Casework: Oak stage risers
7. Doors: Stained solid core wood

J. Finish Hardware: Cylindrical knobs; non-accessible

K. Specialties:

1. Toilet Compartments: Painted steel
2. Fire Extinguisher Cabinets: 17# ABC in cabinets at open spaces below roof monitors
3. Chalk/Marker Boards: NA
4. Lockers: NA
5. Operable Partitions: Unused economy-grade partition between Selectmen's Meeting Room and Public Access TV studio/storage
6. Signage: Miscellaneous; does not conform to ADA/AAB requirements

L. Equipment:

1. Food Service: Original commercial equipment is still in kitchen but is disconnected and appears not to have been used for some time; includes stainless steel 3-compartment sink with aprons, hood, stacked ovens (3-high), range, cork-insulated walk-in cooler (presently used for Town Clerk storage) and miscellaneous carts

M. Furnishings:

1. Window Shades: Vertical blinds

N. Special Construction: NA

O. Conveying Systems:

1. Elevator(s): NA
2. Lift(s): NA

III. MECHANICAL/ELECTRICAL: Refer to separate assessments by mechanical/electrical engineers

IV. ACCESSIBILITY

A. Site

1. Accessible route: Curb cut at accessible parking spaces adjacent to building
2. Walkways: Bituminous paved; slope appears to exceed 2% cross-slope
3. Parking: 4-accessible spaces; slope appears to exceed 2% allowable cross-slope

B. Building

1. Entrances: Main entry is accessible.
2. Ramps: NA
3. Stairways: NA
4. Doors: Inadequate push and pull side clearances
5. Floor Surfaces: Generally smooth; some thresholds at floor finish changes
6. Toilet Rooms: Inadequate clearances and fixture types.

V. REMARKS, NOTES AND COMMENTS:

A. If renovated, seismic upgrades will be required to parapet walls, masonry walls and precast concrete structural elements. Although the building's use group would remain unchanged, the proposed work will almost certainly exceed the threshold of 50% of assessed building value (not including life safety and ADA/AAB upgrades).

B. Roof access was not permitted because the Town has been advised that it is not safe to walk on. Several areas were observed where the steel roof deck has deteriorated badly, especially at the north end of the building. It was observed that the roof leaks badly in many locations. The Town Administrator also advised that vandals recently kicked in several plastic roof skylights.

C. In December of 2007, due to heavy snow/rain and severe walls cracks, the Board of Selectmen voted to abandon the Mixter Building entirely and relocate all Town Offices and Senior Center by January 15, 2008.

Prescott Street Site Plan- Existing Conditions

Front of Building

Main Entry

Town Office Wing

Parking and Baseball Field

Mixter Building – Existing Conditions Photos

POLICE/FIRE STATION:

I. SITE:

A. Address: 39 Worcester Street

B. Zoning District: Business and Single Residence

C. Assessor's Map No: 143

D. Parcel No: 72

E. Area: 2.7 acres

F. Parking: Approximately 50 parking spaces (shared with DPW); bituminous pavement; poor condition.

G. Loading Area(s): NA

H. Site Utilities:

1. Water: 6" d. cement-lined cast iron pipe from Worcester Street

2. Sanitary: 4" d. pipe to 90 degree elbow with cleanout (northeast corner of building; former location of on-site septic system) to tee in DPW sewer line to 8" d. public sewer line in Worcester Street

3. Drainage:

a. Roof: 6" d. cast iron pipe exits building on north side of building and connects to catch basin in parking area

b. Garage floor drains(basement and 1st floor levels): 4" cast iron pipe exits catch basin/gas trap in basement level garage and connects to dry well off northwest corner of building

4. Gas: ¾" d. service enters basement

5. Electric: Underground primary service from utility pole in parking lot connect to pad-mounted transformer on north side of building

6. Emergency Generator: Natural gas generator is located on the east side of building

7. Fuel Oil Tank(s): NA

8. LPG Tank(s): Underground, rear of building

9. Other: Compressed air tanks (2) located on east side of building

I. Trash/Recycling Facilities:

1. Dumpster(s): 5-6 CY roll-off dumpster on east side of building

2. Recycling containers: 3 upright wheeled containers on east side of building

J. Materials Storage:

K. Athletic Fields/Facilities: NA

L. Site Lighting: Utility pole and building-mounted fixtures

M. Outbuilding(s): 20' x 20' fabric-covered tent structure, adjacent to DPW building, is utilized for storage.

N. Soils Type:

1. 245B – Hinckley sandy loam, 3-8% slope.

2. 245C – Hinckley sandy loam, 8-15% slope. Hinckley soils are characterized as "excessively drained", not susceptible to ponding or flooding, and with 80"+ water table depth.

3. 260A – Sudbury fine sandy loam, 0-3% slope. Sudbury fine sandy loam, 3-8% slope. Sudbury soils are characterized as "moderately well drained", not susceptible to ponding or flooding, and with 18-36" water table depth.

O. Miscellaneous: Chain link fenced areas adjacent to DPW building used for stolen property and dog impoundment.

II. BUILDING:

A. Construction Date(s): 1969

B. Construction Classification: 2C Noncombustible Unprotected or 3B Noncombustible/Combustible Unprotected

C. Use Group(s): B – Business (police and fire stations)

D. Assessed Value: $408,100 (building only)

E. Height: 3-story

F. Area:

Basement level = 2,135 SF

1st floor level = 5,970 SF

2nd floor level = 2,165 SF

Total = 10,270 SF

G. Structural System:

1. Foundations: Concrete
2. Floor Framing:
   a. Concrete slab-on-grade
   b. Precast concrete plank with topping slab
3. Exterior Walls: Loadbearing CMU
4. Roof Framing:
   a. Precast concrete planks
   b. Precast pre-stressed concrete tees with topping slab at apparatus garage
5. Other: Precast concrete lintels at overhead sectional overhead doors

H. Thermal/Moisture Building Envelope:

1. Exterior Wall Construction: 6" CMU back-up wall with 1" urethane insulation, airspace, vinyl thru-wall flashing and 4" CMU veneer
2. Windows: Aluminum projected with insulating glass; poor condition
3. Doors: Aluminum entry doors and framing
4. Roof Construction: Carlisle ballasted EPDM membrane roofing system with sheet metal copings at parapet walls; leaks reported
5. Protected Construction: NA
6. Other: Motorized insulated steel overhead sectional doors at fire apparatus garage; good condition

I. Interior Finishes:

1. Flooring: Carpet and vinyl (toilets)
2. Base: Vinyl
3. Walls: Metal stud and gypsum board; painted
4. Ceilings: Exposed concrete plank with direct-applied texture finish
5. Millwork/Casework: Base cabinets at booking area; base and wall cabinets at kitchen

J. Finish Hardware: Mostly lever-type

K. Specialties:

1. Toilet Compartments: Painted metal shower partitions
2. Fire Extinguisher Cabinets:
3. Chalk/Marker Boards: Markerboard at training room
4. Lockers: Built-in lockers at workroom; 8-metal lockers at 2nd floor rear stair landing
5. Operable Partitions: NA
6. Signage: NA

L. Equipment:

1. Food Service: Residential appliances at kitchen

M. Furnishings:

1. Window Shades: Horizontal metal blinds
2. Other: Desks, chairs, tables, plasma TV and VCR (training room), file cabinets, etc.

N. Special Construction: NA

O. Conveying Systems:

1. Elevator(s): NA
2. Lift(s): NA

III. MECHANICAL/ELECTRICAL: Refer to attached assessments by mechanical/electrical engineers

IV. ACCESSIBILITY

A. Site

1. Accessible route: Yes; from parking spaces to building entry
2. Parking: 2-assigned parking spaces

B. Building

1. Accessible Route: No vertical access to upper or basement levels
2. Entrances:
3. Ramps: NA
4. Stairways: 11" treads and 7 ½" risers; 2-pipe combination handrail/guardrail
5. Doors: 36" wide; typical
6. Floor Surfaces: Generally smooth; some thresholds
7. Toilet Rooms: Inadequate clearances and lack of grab bars

V. REMARKS, NOTES AND COMMENTS:

A. Police and Fire stations, per MA Building Code Table 1612.2.5, fall under Group III Seismic Hazard Exposure Group. This, along with the likelihood that the cost of proposed work will exceed 50% of assessed building value (not including life safety and ADA/AAB upgrades), would place the building in Seismic Hazard Category 3.

DEPARTMENT OF PUBLIC WORKS GARAGE:

I. SITE:

A. Address: 35 Worcester Street

B. Zoning District: Business and Single Residence

C. Assessor's Map No: 143

D. Parcel No: 72

E. Area : 2.7 acres

F. Parking: Approximately 50 parking spaces (shared with Police/Fire); bituminous pavement; poor condition.

G. Loading Area(s): NA

H. Site Utilities:

1. Water: 6" d. pipe from 8" main in Worcester Street
2. Sanitary: 6"d. pipe to 8" d. public sewer pipe in Worcester Street
3. Drainage: 1-catch basin in paved parking area
4. Gas: ¾" d. service to building; 6" in Worcester Street
5. Electric: Overhead wires from utility pole in parking area
6. Emergency Generator: NA
7. Fuel Oil Tank(s):
   a. One 2000-gallon above-ground diesel fuel tank
   b. One 4000-gallon above-ground gasoline tank
   c. A permit was issued in 1969 for the purpose of moving a 10,000-gallon gasoline tank.
   d. In 1995, a MA Department of Public Safety permit was issued for the removal and transport of a 1400-gallon underground oil storage tank.
8. LPG Tank(s): NA
9. Other: One above-ground waste oil recycling storage tank located at the north end of building.

I. Trash/Recycling Facilities:

1. Dumpster(s): One 3-4 CY roll-off dumpster
2. Compactor: NA

J. Materials Storage: See "Outbuildings" below

K. Athletic Fields/Facilities: NA

L. Site Lighting: Wall-mounted wall packs

M. Outbuilding(s):

1. Attached CMU shed addition on east side of building
2. 20' x 20' fabric-covered structure; east of parking area and north of building
3. 40' w. x 65' d. salt storage shed
4. 40' w. x 15' d. open storage shed (chipper, utility tractor, signs, barrels, etc.)
5. 35' w. x 30' d. open storage shed (2-dump trucks)

N. Miscellaneous:

1. Chain link fenced impound areas on the south and east sides of the building

II. BUILDING:

A. Construction Date(s): 1942

B. Construction Classification: 3B Noncombustible/Combustible Unprotected

C. Use Group(s): S-1 Moderate Hazard Storage (lower level repair garage) and B-Business (upper level offices)

D. Assessed Value: $156,500 (building only)

E. Height: 2-story

F. Area (gross):

Lower level = 5,192 SF

Upper level = 5,192 SF

Total = 10,384 SF

G. Structural System:

1. Foundations: Concrete
2. Floor Framing: Concrete slab-on-grade. Heavy timber wood elevated floor framing (10" x 10" columns, 10" x 14" beams) with wood plank subfloor
3. Exterior Walls: 12" brick; load-bearing
4. Roof Framing: Heavy timber wood roof framing (8" x 12" beams) with wood plank decking
5. Other: NA

H. Thermal/Moisture Building Envelope:

1. Exterior Wall Construction: Solid brick masonry
2. Windows: White vinyl double hung with insulating glass
3. Doors: Hollow metal doors and frames
4. Roof Construction: Sarnafil PVC membrane roofing system with PVC-clad metal fascias and copings. Roof is reported to be 16 years old and is in good condition
5. Protected Construction: NA
6. Other: Stile and rail motorized overhead sectional doors with plywood and glass panels; poor condition.

I. Interior Finishes:

1. Flooring:
   a. Lower level: Concrete slab on grade
   b. Upper level: T & G fir, carpet and VAT
2. Base: Wood
3. Walls:
   a. Lower level: Brick
   b. Upper level: Wood stud with T & G Wood wainscot (corridor) and painted fiber board; some ¼" wood paneling at DPW offices
4. Ceilings:
   a. Lower level: Exposed structure
   b. Upper level: 12" x 12" fiber board ceiling tiles
5. Millwork/Casework: Base cabinets and counters at kitchen
6. Doors: Stile and rail panel doors

J. Finish Hardware: Original brass mortise sets with glass knobs

K. Specialties:

1. Toilet Compartments: NA
2. Fire Extinguisher Cabinets: NA
3. Chalk/Marker Boards: NA
4. Lockers: NA
5. Operable Partitions: NA
6. Signage: NA

L. Equipment:

1. Food Service: Refrigerator

M. Furnishings:

1. Window Shades: Horizontal metal blinds and roller shades
2. Other: Desks, chairs, tables, file cabinets, shelving, etc.

N. Special Construction:

1. Steel fire escape stair on east side of building

O. Conveying Systems:

1. Elevator(s): NA
2. Lift(s): NA

III. MECHANICAL/ELECTRICAL: Refer to attached assessments by mechanical/electrical engineers

IV. ACCESSIBILITY

A. Site

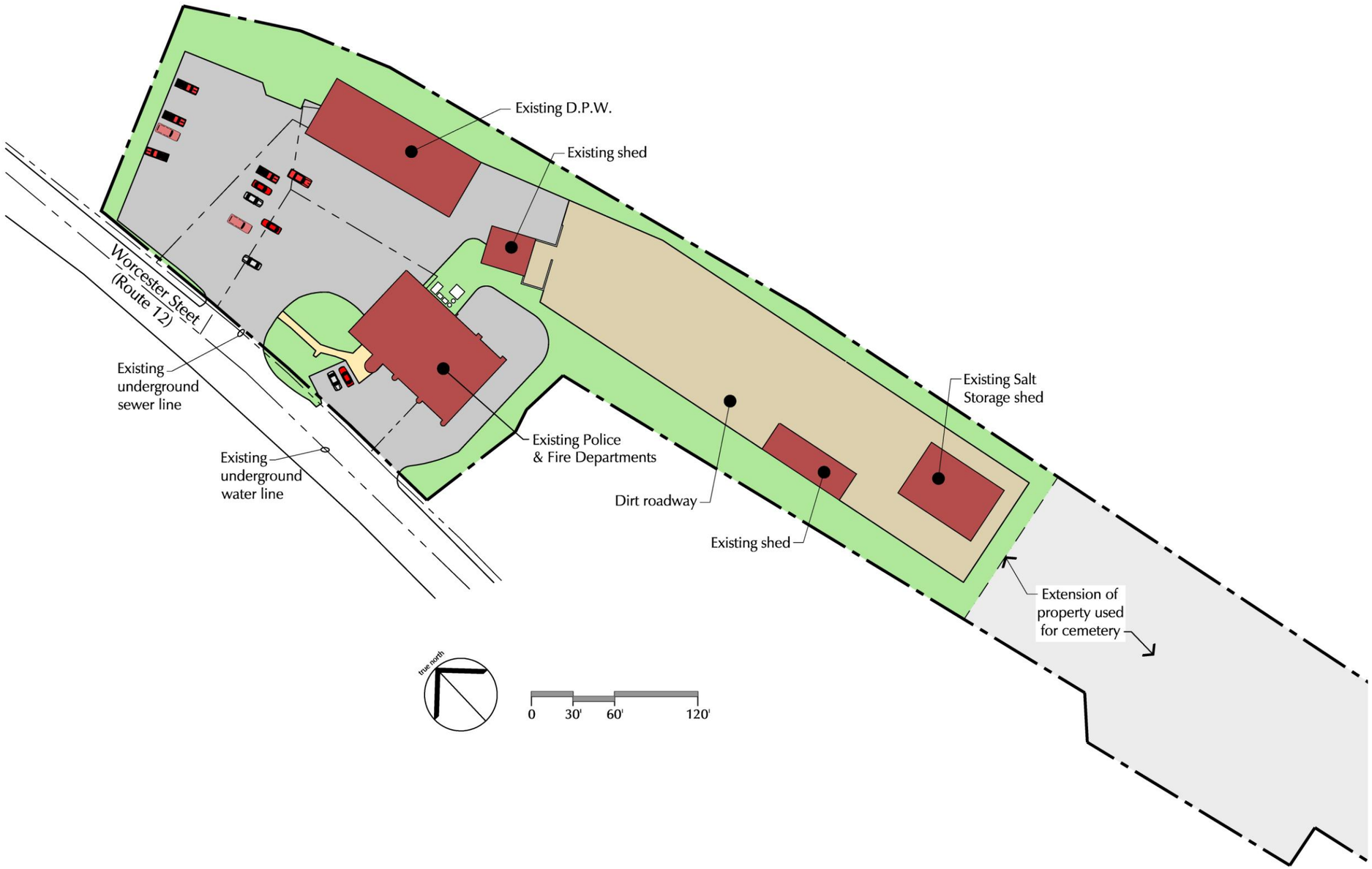
1. Accessible route: No
2. Curb Cuts: NA
3. Walkways: NA
4. Parking: No designated accessible parking spaces

B. Building

1. Accessible Route: No access to upper level
2. Entrances: Accessible entry to stair
3. Ramps: NA
4. Stairways: 9 ½" treads with nosings and 7 ½" risers
5. Doors: 32" wide, typical, with knob hardware
6. Floor Surfaces: Generally smooth; some thresholds
7. Toilet Rooms: Inadequate clearances, fixture heights and lack of grab bars

V. REMARKS, NOTES AND COMMENTS:

A. Police and Fire stations, per MA Building Code Table 1612.2.5, fall under Group III Seismic Hazard Exposure Group. This, along with the likelihood that the cost of proposed work will exceed 50% of assessed building value (not including life safety and ADA/AAB upgrades), would place the building in Seismic Hazard Category 3.



Worcester Street Site Plan- Existing Conditions

View From Lower Parking Area

Main Entry

Apparatus Garage Doors

Police / Fire Station – Existing Conditions Photos

Rear Apparatus Garage Door

View From North Side of Building

View From Rear of Building

Police / Fire Station – Existing Conditions Photos

View From Worcester Street

Main Entry

View From Police/Fire Station

DPW – Existing Conditions Photos

View From Rear of Building

Salt and Storage Shed

Vehicle Shed

DPW – Existing Conditions Photos

PAUL X. TIVNAN DRIVE SITE:

I. SITE:

A. Address: Paul Tivnan Drive

B. Zoning District: Business and Single Residence

C. Assessor's Map No:

D. Parcel No:

E. Area: acres

F. Parking: NA

G. Loading Area(s): NA

H. Site Utilities:

1. Water:
2. Sanitary:
3. Drainage:
4. Gas:
5. Electric:
6. Fuel Oil Tank(s): NA
7. LPG Tank(s): NA

I. Trash/Recycling Facilities: NA

J. Materials Storage: NA

K. Athletic Fields/Facilities: NA

L. Site Lighting: Utility pole mounted fixtures

M. Outbuilding(s): NA

N. Soils Type:

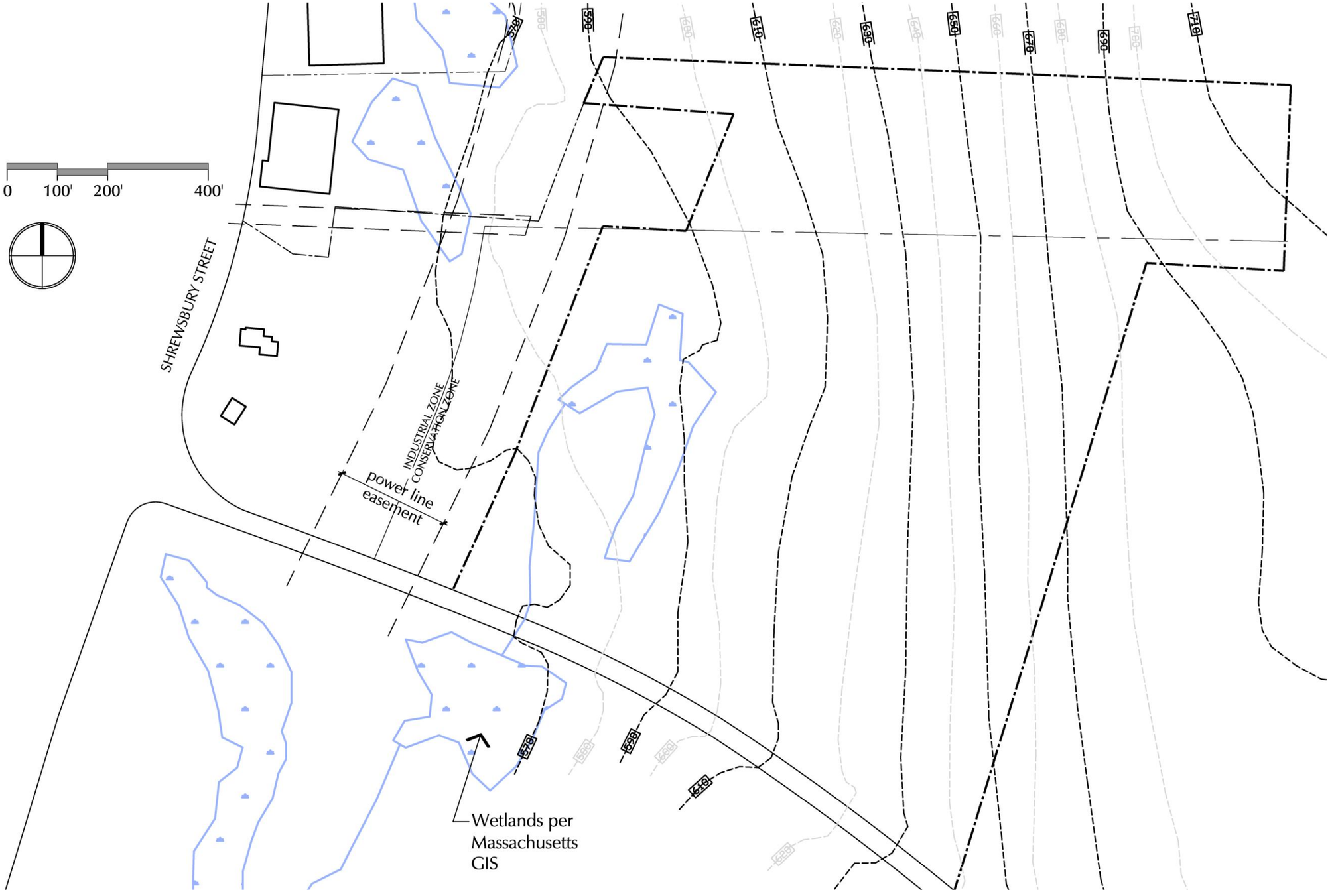
1. 245B – Hinckley sandy loam, 3-8% slope.
2. 245C – Hinckley sandy loam, 8-15% slope. Hinckley soils are characterized as "excessively drained", not susceptible to ponding or flooding, and with 80"+ water table depth.
3. 260A – Sudbury fine sandy loam, 0-3% slope. Sudbury fine sandy loam, 3-8% slope. Sudbury soils are characterized as "moderately well drained", not susceptible to ponding or flooding, and with 18-36" water table depth.

O. Miscellaneous: Wetlands are indicated on MA GIS website.

II. BUILDING: NA

III. REMARKS, NOTES AND COMMENTS:

A. Site is undeveloped



Paul X. Tivnan Drive Site Plan- Existing Conditions

PART 3 – NEEDS/PROGRAMMING

NARRATIVE:

The NEEDS/PROGRAMMING section documents the space need requests made by Department heads, as well as each Department's current space usage as observed by LPA. Building programs were prepared for the Town Offices, Senior Center, Police Department, Fire Department and Department of Public Works. After review and approval by the Building Committee, these documents became the basis for the Design phase of the study.

BUILDING PROGRAMS:

TOWN OFFICES BUILDING PROGRAM				
DEPARTMENT	**SPACE**	**ADJACENCY**	**DESCRIPTION**	**AREA**
Town Administrator	Reception/ General Office		1-workstation + occasional volunteer, file cabinets, bookshelves, open shelving, markerboard and tackboard. See Note #2.	300 SF
	Waiting Area		3-4 chairs, coat rod and shelf	100 SF
	Town Administrator's Office	Meeting Room #1	Private office, 1-workstation, file cabinets and bookshelves, conference table and chairs for 6-8 (for executive session use during public meetings)	250 SF
	Copier/Mail Room	Reception/ General Office	Central copier (linked to all departments), worktable or counter, paper storage cabinets, exhaust air system and mailboxes for all Town Offices.	150 SF
	Supply Room		Open shelving for storage of office supplies for all departments.	100 SF
Town Clerk	Reception/ General Office		2-workstations, reception counter with base cabinets below, 2-wall cabinets, 4-file cabinets, open shelving, bookcase, markerboard, tackboard, display case, copier, 5-computers, 2-printers, fax and 2-scanners.	400 SF
	Vault	Reception/ General Office	6-hour fire rated, ground supported, watertight, refer to Vaults-Technical Bulletin.	400 SF
	Storage Room	Reception/ General Office	Secure storage space for voting machines, booths, safe, etc.	400 SF
Assessor	Reception/ General Office		2-workstations, reception counter with base cabinets below, 2-wall cabinets, 2-bookcases (4-shelf), 8-file cabinets (42" wide"), archived file storage, 1-flat file cabinet for maps, tackboard, copier, printer	400 SF
	Public Access Computer Area	Direct visibility to Reception/ General Office	Computer, monitor and printer for public use.	100 SF
Treasurer/ Collector	Reception/ General Office	Town Accountant/ Finance Director	3-workstations + volunteer, reception counter with cash register and base cabinets below, vertical and lateral file cabinets, bookcase, 1-markerboard, 3-tackboards, copier and fax.	700 SF
	Secure Storage		Secure room for safe and other miscellaneous items	100 SF

TOWN OFFICES BUILDING PROGRAM				
DEPARTMENT	**SPACE**	**ADJACENCY**	**DESCRIPTION**	**AREA**
Town Accountant/ Finance Director	Reception/ General Office	Treasurer/ Collector	3-workstations + volunteer, file cabinets	600 SF
	Storage		Boxed records on open shelving and/or file cabinets.	200 SF
Inspectional Services	Reception/ General Office	Board of Health, Treasurer/ Collector, Town Clerk and Town Administrator	2-workstations, reception counter with base cabinets below, 10+ lateral file cabinets, 10+ flat file cabinets, 8+ vertical file cabinets, 10' open shelving, tackboard, tables for plan review and reference.	500 SF
Board of Health	Reception/ General Office	Inspectional Services, shared meeting spaces	1-workstation + volunteer and/or part-time help, reception counter with base cabinets below, 2-full height cabinets, 10-file cabinets1-bookcase, 2-tackboards (1-public + 1-internal use), copier	300 SF
Veteran's Agent	Office		1-workstation (part-time), file cabinet	125 SF
Cemetery Commission	General Office		2-workstations, meeting table	350 SF
IT Services	Server/Work Room	Centrally located	1-workstation (part-time), open shelving for 4 servers, routers, modems, tape drive, etc., 2+ monitors, tackboard, work counter for repairs and staging new systems, 1-file cabinet, bookcase, open storage shelving (computers, monitors, other equipment), cabling punch panel, non-static flooring surface, special fire protection detection/suppression system, stable temperature and humidity, battery back-up power, multiple computer power circuits.	200 SF
Public Access TV	Control Room	Large Meeting Room (direct adjacency with fixed window between)	3-editing systems, broadcast control equipment, tackboard, 5-armchairs, 4-computers + monitors, DVD/video decks. Separate meeting space is required for 10-12 people.	250 SF
	Studio		Stage area with lights and audio/video equipment for recording programs	150 SF
	Workshop		Storage/work area for audio/video equipment, tape archives and studio equipment.	100 SF

TOWN OFFICES BUILDING PROGRAM				
DEPARTMENT	**SPACE**	**ADJACENCY**	**DESCRIPTION**	**AREA**
Shared Spaces	Meeting Room #1	Lobby, Public Access TV Control Room, Council on Aging, direct exterior access	Public meeting room for up to 75 occupants in chairs, projector and screen, sink and counter with base cabinets. See Note #3.	1200 SF
	Meeting Room #2	Public Access TV Control Room	Public meeting room for up to 30 occupants in chairs.	500 SF
	Meeting Room #3	Public Access TV Control Room	Public meeting room for up to 30 occupants in chairs.	500 SF
	Meeting Room #4		Meeting space for 6-8 occupants, for use by all departments.	200 SF
	Multi-Use Board/ Committee Work Room	Meeting Rooms #1 and 2	Work and filing storage area for use by Planning Board, Zoning Board of Appeals, Conservation Commission, Parks Commission and other public boards and committees. 2-workstations, 4-flat file cabinets, 8-fireproof file cabinets, 24-30-file cabinets, reference tables, markerboard and tackboard. Secure closet for storage.	500 SF
	General Storage Room	Meeting Rooms	Table, chair and other storage.	500 SF
	Lunch/Break Room	Copier/Mail Room	Table and chairs for up to 6 occupants, sink, refrigerator, microwave, coffeemaker, water cooler, recycling bins and base/wall cabinets with counter.	250 SF
	Lobby	Meeting Rooms	Main entry with vestibule.	Note #1
	Public Toilets	Meeting Rooms	Accessible male and female facilities.	Notes #1 & 3
	Janitor Closet	Toilet Rooms	Floor sink and storage shelving.	Notes #1 & 3
	Mechanical Room	Exterior access, delivery and loading area		Notes #1 & 3
	Electrical Room	Mechanical Room		Notes #1 & 3
	Emergency Electric Room	Electrical Room		Notes #1 & 3

TOWN OFFICES BUILDING PROGRAM				
			SUB-TOTAL PROGRAM SPACE AREA (NET)	**9,825 SF**
			+ 35% FACTOR (CIRCULATION, WALLS, MECHANICAL/ELECTRICAL SPACES, PUBLIC TOILET ROOMS, ETC.)	**3,440 SF**
			TOTAL BUILDING AREA (GROSS)	**13,265 SF**
SITE			▪ 25-employee parking spaces ▪ 10-visitor parking spaces (attendees of evening public meetings to use Senior Center parking spaces) ▪ Flagpole ▪ Emergency generator ▪ Dumpster	

NOTES:
1. Area included in 35% factor for circulation, walls, mechanical/electrical spaces, public toilet rooms, etc.
2. Typical workstation includes a desk, chair, desktop computer, monitor and telephone.
3. Potential for shared space with Senior Center.

TOWN ADMINISTRATOR

- Reception/ General Office — 300 S.F.
- Waiting Area — 100 S.F.
- Town Administrator's Office — 250 S.F.
- Copier/ Mail Room — 150 S.F.
- Supply Room — 100 S.F.

TOWN CLERK

- Reception/ General Office — 400 S.F.
- Vault — 400 S.F.
- Storage Room — 400 S.F.

ASSESSOR

- Reception/ General Office — 400 S.F.
- Public Access Computer Area — 100 S.F.

TREASURER/ COLLECTOR

- Reception/ General Office — 700 S.F.
- Secure Storage — 100 S.F.

TOWN ACCOUNTANT/ FINANCE DIRECTOR

- Reception/ General Office — 600 S.F.
- Storage — 200 S.F.

INSPECTIONAL SERVICES

- Reception/ General Office — 500 S.F.

BOARD OF HEALTH

- Reception/ General Office — 300 S.F.

VETERAN'S AGENT

- Office — 125 S.F.

IT SERVICES

- Server/ Work Room — 200 S.F.

CEMETERY COMMISSION

- General Office — 350 S.F.

PUBLIC ACCESS TV

- Control Room — 250 S.F.
- Studio — 150 S.F.
- Workshop — 100 S.F.

SHARED SPACES

- Meeting Room #1 (75 Occupants Seated) — 1,200 S.F.
- Meeting Room #2 (30 Occupants Seated) — 500 S.F.
- Meeting Room #3 — 500 S.F.
- Meeting Room #4 — 200 S.F.

SHARED SPACES

- Multi-Use Board/ Committee Work Room — 500 S.F.
- General Storage Room — 500 S.F.
- Lunch/ Break Room — 250 S.F.

+35% FACTOR
Circulation, Walls, Mechanical/Electrical Spaces, Public Toilet Rooms, Etc. — 3,440 S.F.

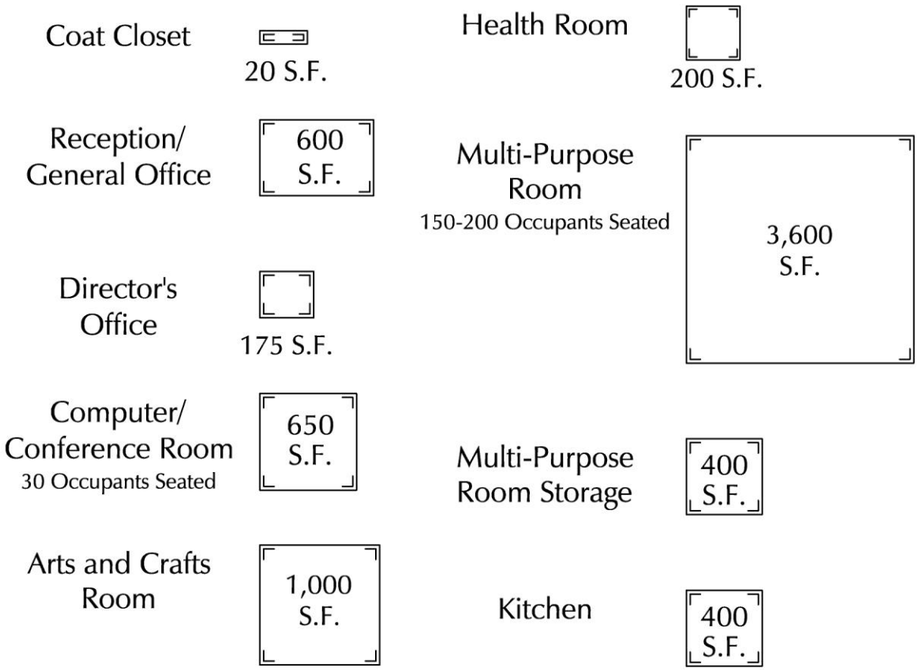
0 20' 40' 80'

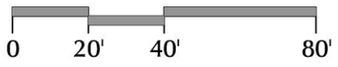
General Spatial Overview- Town Offices

SENIOR CENTER BUILDING PROGRAM			
SPACE	**ADJACENCY**	**DESCRIPTION**	**AREA**
Lobby	Reception, visibility to drop-off/pick-up area	Vestibule airlock entry with automatic doors and covered exterior porch, display case.	Included in circulation factor
Coat Closet	Reception, Multi-Purpose Room	Rods and shelf for 25-30 coats. Portable coat racks will be utilized for large events.	20 SF
Reception/ General Office	Lobby	4-workstations for assistant director and volunteers (including receptionist), reception counter with base cabinets, copier, fax, filing cabinets, bookshelves, tackboard, office supply storage cabinets and/or closet with open shelving. See Note #2.	600 SF
Director's Office	General Office	Private office, 1-workstation, conference table with 3-chairs, filing cabinet and bookshelf.	175 SF
Conference/ Computer Room		Meeting space for up to 30 occupants at chairs or 15 occupants at tables and chairs, markerboard, tackboard, 12-desktop computer workstations, printer, scanner and storage for paper, media, etc.	650 SF
Arts and Crafts Room		Activity room with supply storage cabinets, sinks with solids interceptors, base/wall storage cabinets and/or supply closet with open shelving.	1000 SF
Lounge/Library	Reception, Game Room	Separate seating areas for reading and television, for up to 8 occupants, with bookshelves, TV, DVD/VCR unit, side/coffee tables and comfortable seating; kitchenette with coffeemaker, sink, base/wall cabinets and small refrigerator.	425 SF
Game Room	Lounge/Library	1-billiards table, card tables and chairs for 12-15 people, with storage cabinets and/or closet.	600 SF
Health Room		Hair, nail and foot care, sink, counter with base and wall cabinets, exam table, storage closet for medical equipment.	200 SF
Multi-Purpose Room	Town Offices, direct exterior access	Space for large gatherings and events, operable partition (1/2 dining - 2/3 other program space), space for 150-200 people at tables and chairs, potential for public/Town Office use, assisted listening system and sink with base counter.	3600 SF
Multi-Purpose Room Storage	Multi-Purpose Room	Storage for tables and chairs.	400 SF
Kitchen	Multi-Purpose Room, direct exterior access, Loading/Delivery	Commercial equipment to include counters, tables, shelves, stove/griddle, steam table, pot sink, hood, microwave oven, coffee machine, sealing machine, reach-in refrigerator/freezer and dishwasher. Dry storage room and small office with desk and chair. 22+ meals-on-wheels are prepared daily with food brought in by Chartwell and packaged for delivery by the Council on Aging. Up to 25 lunches are also served daily.	400 SF
Loan Closet Storage	Reception	Storage area for wheelchairs, walkers and other equipment to be loaned out.	150 SF

SENIOR CENTER BUILDING PROGRAM			
SPACE	**ADJACENCY**	**DESCRIPTION**	**AREA**
General Storage		Office supplies, seasonal decorations, emergency shelter supplies, etc.	250 SF
Loading/Delivery	Kitchen, Town Offices		Notes #1 & 3
Public Toilet Rooms	Multi-Purpose Room	Accessible male and female facilities.	Notes #1 & 3
Janitor Closet	Toilet Rooms	Floor sink and storage shelving.	Notes #1 & 3
Mechanical Room	Exterior access, Loading/Delivery area		Notes #1 & 3
Electrical Room	Mechanical Room		Notes #1 & 3
Emergency Electric Room	Electrical Room		Notes #1 & 3
		SUB-TOTAL PROGRAM SPACE AREA (NET)	**8,470 SF**
		+ 35% FACTOR (CIRCULATION, WALLS, MECHANICAL/ELECTRICAL SPACES, PUBLIC TOILET ROOMS, ETC.)	**2,965 SF**
		TOTAL BUILDING AREA (GROSS)	**11,435 SF**
SITE		• 20 employee and volunteer parking spaces ▪ 75 visitor parking spaces ▪ Garden and Patio areas ▪ Emergency generator (potential use as emergency shelter) ▪ Dumpster	

NOTES:
1. Area included in 35% factor for circulation, walls, mechanical/electrical spaces, public toilet rooms, etc.
2. Typical workstation includes a desk, chair, desktop computer, monitor and telephone.
3. Potential for shared space with Town Offices.





General Spatial Overview- Senior Center

POLICE STATION BUILDING PROGRAM			
SPACE	**ADJACENCY**	**DESCRIPTION**	**AREA**
Reception	Conference/Meeting Room (direct access without entering other secure Police department areas)	Controlled access reception/waiting area, counter with window above, 5-seats, display case.	125 SF
Communications Center	Reception	2-dispatcher consoles, 911 emergency response system, copier, fax, scanner, TV, radio communications system.	250 SF
Chief's Office	General Office	1-workstation, conference table with 3-chairs, fax, file cabinet and bookshelf. See Note #2.	175 SF
Detective's Office	General Office	1-workstation, file cabinet and bookshelf.	125 SF
Sergeants/ Command Staff Office	General Office	4-workstations, file cabinets, display case and bookshelves.	400 SF
General Office	Reception	Report-writing area with 2-workstations, copier, fax, 15+ file cabinets, bookshelves (law/reference volumes), office supply storage cabinets and/or closet with open shelving.	200 SF
Conference/ Meeting Room	Reception	Meeting space for 6-8 occupants at table and chairs, markerboard, tackboard.	150 SF
Training Room		Meeting space for up to 20 occupants at chairs and tables (lecture configuration), wall-mounted flat-panel TV, DVD/VCR unit, projector and screen, markerboard, with storage closet.	400 SF
Work Room		Work and report writing area for 5 people at tables.	125 SF
Evidence Storage Room		Secure space with adjustable shelving, four 12" x 12" x 12" keyed lockers outside door for evidence transfer.	400 SF
Evidence Processing Room		Secure space with 1-workstation and storage for processing and testing of evidence.	200 SF
Armory Room		Secure storage and maintenance of weapons and ammunition, work counter and weapon racks.	100 SF
Exercise Room	Locker Rooms	Weights, exercise machines, treadmill, Exercycle, etc. See Note #3.	600 SF
Lunch/Break Room		Table and chairs for up to 6 occupants, sink, refrigerator, microwave, coffeemaker, water cooler, recycling bins and base/wall cabinets with counter.	150 SF
Locker Rooms		Accessible male and female lockers, toilets and showers for 25 employees, full-height 24" x 24" lockers (5 women and 20 men) for gear storage.	400 SF
Laundry Room	Locker Rooms	Laundry area for 25-employees, washer, dryer, counter, rod and shelf.	150 SF

POLICE STATION BUILDING PROGRAM			
SPACE	**ADJACENCY**	**DESCRIPTION**	**AREA**
Sallyport	Booking Area	Secure area for one police cruiser, steel-faced insulated overhead sectional exterior door, security grids (if windows), firearm lockbox and carbon monoxide exhaust system.	375 SF
Booking Area	Sallyport	Booking area for multiple detainees. Telephone, fingerprinting station, breathalyzer machine, photo station, copier, 2-computers and base/wall storage cabinets.	125 SF
Interview Room	Booking Area	Secure detainee interview space with 2-chairs and a desk.	100 SF
Cell Block	Booking Area	Separate adult male, adult female and juvenile cells (one each) in accordance with 105 CMR 470 Maintenance and Construction of Lockup Facilities.	350 SF
Vehicle Garage Area		Space for 3-4 police cruisers, steel-faced insulated overhead sectional exterior doors, vehicle wash bay and carbon monoxide exhaust system.	1,200 SF
Public Toilets	Reception	Accessible male and female facilities.	Note #1
Janitor Closet	Toilet Rooms	Floor sink and storage shelving.	Note #1
Mechanical Room	Exterior access		Note #1
Electrical Room	Mechanical Room		Note #1
Emergency Electric Room	Electrical Room		Note #1
		SUB-TOTAL PROGRAM SPACE AREA (NET)	**6,100 SF**
		+ 35% FACTOR (CIRCULATION, WALLS, MECHANICAL/ELECTRICAL SPACES, PUBLIC TOILET ROOMS, ETC.)	**2,135 SF**
		TOTAL BUILDING AREA (GROSS)	**8,235 SF**
SITE		• 10 employee parking spaces ▪ 10 visitor parking spaces ▪ Fuel depot ▪ Covered and fenced impound yard for motor vehicles, bicycles, ATV's, etc. ▪ Emergency generator ▪ Fully illuminated building exterior ▪ Dumpster	

NOTES:
1. Area included in 35% factor for circulation, walls, mechanical/electrical spaces, public toilet rooms, etc.
2. Typical workstation includes a desk, chair, desktop computer, monitor and telephone.
3. Exercise Room to be shared with the Fire Department.

Reception — 125 S.F.

Communications Center — 250 S.F.

Chief's Office — 175 S.F.

Detective's Office — 125 S.F.

Sergeants/Command Staff Office — 400 S.F.

General Office — 200 S.F.

Conference/ Meeting Room — 150 S.F.

Training Room — 400 S.F.

Work Room — 125 S.F.

Evidence Storage Room — 400 S.F.

Evidence Processing Room — 200 S.F.

Armory Room — 100 S.F.

Exercise Room — 600 S.F.

Lunch/ Break Room — 150 S.F.

Locker Rooms — 400 S.F.

Laundry Room — 150 S.F.

Sallyport — 375 S.F.

Booking Area — 125 S.F.

Interview Room — 100 S.F.

Cell Block — 350 S.F.

Vehicle Garage Area — 1,200 S.F.

+35% FACTOR
Circulation, Walls, Mechanical/Electrical Spaces, Public Toilet Rooms, Etc. — 2,135 S.F.

0 20' 40' 80'

General Spatial Overview- Police Department

FIRE STATION BUILDING PROGRAM

SPACE	ADJACENCY	DESCRIPTION	AREA
Reception	General Office	Controlled access reception/waiting area, counter with window above, 3-4 seats.	100 SF
General Office	Reception	3-workstations, 10-12 file cabinets, tackboard, office storage supply cabinets, copier and fax. See Note #2.	400 SF
Chief's Office	Offices	Private office, 1-workstation, file cabinet and bookshelf.	125 SF
Lieutenant's Offices	Offices	Private offices (2), 1-workstation each, file cabinet and bookshelf.	2 @ 125 SF = 250 SF
Deputy Chiefs' Office	Offices	Shared private office, 1-workstation, file cabinet and bookshelf.	125 SF
Future Office	Offices	Private office, 1-workstation, file cabinet and bookshelf.	
Conference/ Meeting Room	Offices	Meeting space for 6-8 occupants at table and chairs.	150 SF
Work Room	Apparatus Bay	Clean room for 2-3 occupants.	250 SF
Drug Storage		Secure medical storage room with refrigerator for EMT use.	75 SF
Training Room	Kitchen	Meeting space for up to 35 occupants at chairs and tables (lecture configuration), wall-mounted flat-panel TV, DVD/VCR unit, projector and screen, markerboard, tackboard, with storage closet.	600 SF
Kitchen	Training Room	Full kitchen with sink, dishwasher, refrigerator, range, microwave, coffeemaker, water cooler, recycling bins and base/wall cabinets.	120 SF
Sleeping Rooms	Locker Rooms	2-bunks, bed or cots in each.	5 @ 100 SF = 500 SF
Locker Rooms		Accessible male and female lockers, toilets and showers for 40 employees. Double-tier 12" w. x 24" d. lockers (5-10 women and 20-25 men)	400 SF
Laundry/Uniform Room	Apparatus Bay	Gear storage and laundry area for 35-sets of gear on wall-mounted clothing racks, washer, dryer	300 SF
Workshop	Apparatus Bay	Maintenance and tool repair area	300 SF
Exercise Room	Locker Rooms	Weights, exercise machines, treadmill, Exercycle, etc.	Note #3
Apparatus Bay Garage		• Steel-faced insulated overhead sectional exterior doors, vehicle wash bay with hose and floor drain, and carbon monoxide exhaust system. Existing vehicles include: ▪ Engine No. 1: 31.5' l. x 9.67' w. ▪ Engine No. 2: 29.17' l. x 9.33' w. ▪ Engine No. 3: 24.0' l. x 8.83' w. ▪ Tanker No. 1: 24.75' l. x 8.67' w. ▪ Ladder No. 2: 38.0' l. x 9.5' w. ▪ Ambulance No. 1: 23.67' l. x 9.0' w. ▪ Ambulance No. 2: 23.0' l. x 8.83' w. ▪ Marine No. 1: 19.33' l. x 8.67' w. • Adequate space is required around the vehicles for maintenance and cleaning.	5000 SF

FIRE STATION BUILDING PROGRAM			
SPACE	**ADJACENCY**	**DESCRIPTION**	**AREA**
Vehicle Storage Garage		Boat/trailer, hazardous materials trailer (16.33' l. x 7' w.), and steel-faced insulated overhead sectional exterior doors.	700 SF
Public Toilets	Reception	Accessible male and female facilities.	Note #1
Janitor Closet	Toilet Rooms	Floor sink and storage shelving.	Note #1
Mechanical Room	Exterior access, delivery and loading area		Note #1
Electrical Room	Mechanical Room		Note #1
Emergency Electric Room	Electrical Room		Note #1
		SUB-TOTAL PROGRAM SPACE AREA (NET)	**9,395 SF**
		+ 35% FACTOR (CIRCULATION, WALLS, MECHANICAL/ELECTRICAL SPACES, PUBLIC TOILET ROOMS, ETC.)	**3,290 SF**
		TOTAL BUILDING AREA (GROSS)	**12,685 SF**
SITE		▪ 30 employee parking spaces (maximum) ▪ 5 visitor parking spaces ▪ Fuel depot ▪ Emergency generator ▪ Dumpster	

NOTES:
1. Area included in 35% factor for circulation, walls, mechanical/electrical spaces, public toilet rooms, etc.
2. Typical workstation includes a desk, chair, desktop computer, monitor and telephone.
3. Exercise Room to be shared with, and located in, the new/relocated police station.

Reception
100 S.F.

General Office
400 S.F.

Chief's Office
125 S.F.

Lieutenant's Offices
2 @ 125 S.F.= 250 S.F.

Deputy Chief's Office
125 S.F.

Conference/ Meeting Room
150 S.F.

Work Room
250 S.F.

Drug Storage
75 S.F.

Training Room
35 Occupants Seated
600 S.F.

Kitchen
120 S.F.

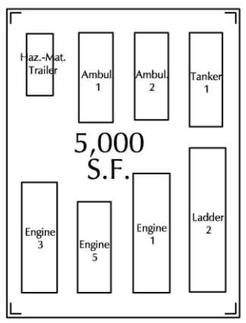
Sleeping Rooms
500 S.F.
5 @ 100 S.F.

Locker Rooms
400 S.F.

Laundry/ Uniform Room
300 S.F.

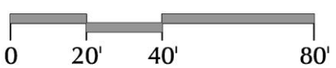
Workshop
300 S.F.

Apparatus Bay Garage



Vehicle Storage Garage
2,000 S.F.

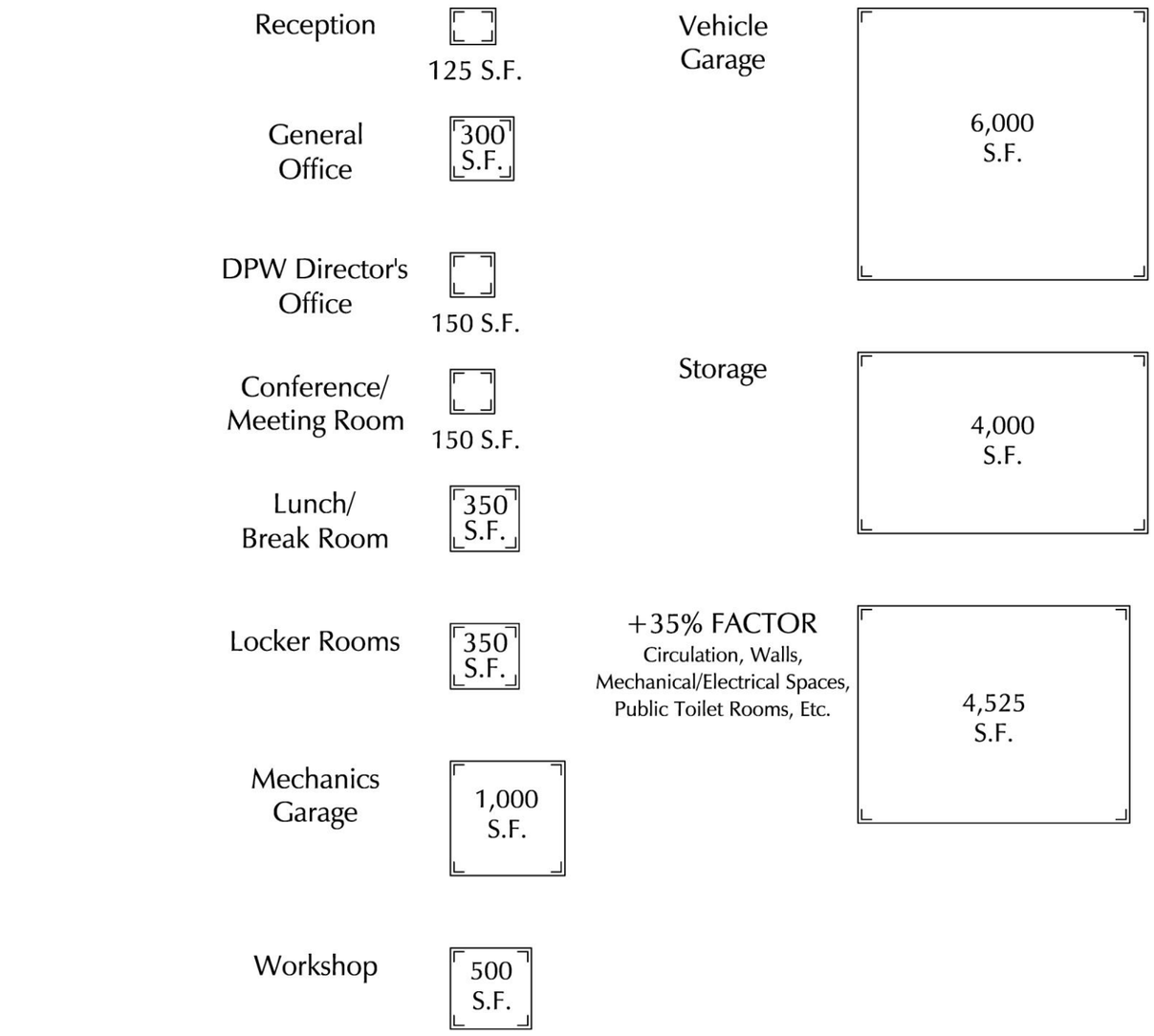
+35% FACTOR
Circulation, Walls, Mechanical/Electrical Spaces, Public Toilet Rooms, Etc.
3,745 S.F.



General Spatial Overview- Fire Department

DEPARTMENT OF PUBLIC WORKS PROGRAM			
SPACE	**ADJACENCY**	**DESCRIPTION**	**AREA**
Reception	General Office	Reception/waiting area, 3-seats, tackboard and display case.	125 SF
General Office	Reception	2-workstations, reception counter, copier, fax, file cabinets and bookshelves, tackboard and office supply storage cabinets and/or closet with open shelving. See Note #2.	300 SF
DPW Director's Office	General Office	Private office, 1-workstation, file cabinet, bookshelves, plan files and large-format plotter.	150 SF
Foreman's Offices	General Office	Private offices, 1-workstation, file cabinet and bookshelves.	2 @ 125 SF each = 250 SF
Conference/ Meeting Room	Reception	Meeting space for up to 8 occupants at table and chairs, markerboard and tackboard with map strip.	150 SF
Lunch/Break Room		Table and chairs for up to 12 occupants at tables and chairs, sink, refrigerator, microwave, coffeemaker, water cooler, recycling bins, base/wall cabinets with counter, TV, markerboard and 1-workstation.	350 SF
Locker Rooms	Garage	Accessible male and female lockers, toilets and showers for 12+ employees, full-height 12" w. x 24" d. lockers (2+ women and 10+ men).	350 SF
Mechanics Garage	Workshop	2-vehicles lifts, 2-bays, each with steel-faced insulated overhead sectional exterior doors and carbon monoxide exhaust system.	1,000 SF
Workshop	Mechanics Garage	Saws, presses, grinders, workbenches, compressors, secure tool storage crib, welding area with exhaust system.	500 SF
Vehicle Garage	Mechanics Garage	14-bays (including 1-vehicle wash bay with hose and floor drain), each with steel-faced insulated overhead sectional exterior doors, and carbon monoxide exhaust system.	7,000 SF
Storage	Vehicle Garage	Unheated space for storage of chippers, sweepers, compressors, plows, sander bodies, utility tractors, snowblowers, lawnmowers, signs, barrels, ladders, etc. and for future expansion. Steel-faced insulated overhead sectional exterior doors on at least one side.	4,000 SF
Public Toilets	Reception	Accessible male and female facilities.	Note #1
Janitor Closet	Toilet Rooms	Floor sink and storage shelving.	Note #1
Mechanical Room	Exterior access, delivery and loading area		Note #1
Electrical Room	Mechanical Room		Note #1
Emergency Electric Room	Electrical Room		Note #1
		SUB-TOTAL PROGRAM SPACE AREA (NET)	**14,175 SF**
		+ 35% FACTOR (CIRCULATION, WALLS, MECHANICAL/ELECTRICAL SPACES, PUBLIC TOILET ROOMS, ETC.)	**4,960 SF**
		TOTAL BUILDING AREA (GROSS)	**19,135 SF**

DEPARTMENT OF PUBLIC WORKS PROGRAM			
SPACE	**ADJACENCY**	**DESCRIPTION**	**AREA**
SITE		• 15-employee parking spaces ▪ 5-visitor parking spaces ▪ 55-spaces for ball field use ▪ Salt shed, 50' x 75' with space for adjacent sand/salt mix pile ▪ Material stockpile areas (sand, mulch, gravel, etc.) ▪ Fuel depot ▪ Emergency generator ▪ Fenced storage yard ▪ Used waste oil collection system and holding tank ▪ Dumpster	
NOTES: 1. Area included in 35% factor for circulation, walls, mechanical/electrical spaces, public toilet rooms, etc. 2. Typical workstation includes a desk, chair, desktop computer, monitor and telephone.			



General Spatial Overview- DPW

PART 4 – DESIGN OPTIONS

NARRATIVE:

Each design option was assessed, as to its merits and limitations, in the following categories:

RELATIVE COST: Order of magnitude costs were looked at in terms of both initial and long-term costs. Initial costs are based on SF area, but will be impacted by factors such as extensive regulatory/permitting compliance (presence of wetlands, hazardous material abatement, life safety and accessibility upgrades to existing buildings mandated by building codes, etc.), difficult topography, limited construction access, temporary relocation of building occupants and equipment, etc. In addition, while the initial cost of one option may be lower than another, there may be factors that would cause it to incur greater long-term operating costs. Such factors include ongoing operational cost savings due to shared building systems/equipment (i.e. Police and Fire Departments using a common dispatch area/equipment) and the ability to share spaces (i.e. combined Town Offices and Senior Center utilizing common meeting rooms and support spaces).

ABILITY TO SUPPORT PROGRAM REQUIREMENTS: The capacity for each design option to support the building program, in terms of both building space and site requirements, was assessed. The efficiency of new construction, as opposed to renovation of existing buildings, is also a consideration in this category. New construction can be designed to meet program needs efficiently. Renovated spaces will be constrained, to varying degrees, by existing structural systems (column locations, floor to floor heights, load-bearing capacity, etc.) and will generally require more gross SF area than new construction for the same amount of program space. For small to medium size buildings, single-story buildings will generally be more efficient, and have lower initial cost, than multi-story buildings because elevators and stairs are not required.

CONSTRUCTION IMPACTS: Each option was assessed relative to the level of disruption during the construction process. Options with the least amount of construction impact will allow for phased construction; building occupants are able to utilize existing spaces until construction is complete and contractors are able to perform work in unoccupied areas. Options with more construction impact will inconvenience occupants with regard to parking, noise, public access, mechanical/electrical service disruptions, etc., and will require that contractors schedule work out of sequence or at night and on weekends. Some options (i.e. renovation of the existing Mixter Building) will require that building occupants relocate entirely for an extended length of time while construction is underway.

REGULATORY /PERMITTING IMPACTS: Each option was assessed relative to the level of regulatory and permitting issues. Options with greater impacts are affected by factors such as environmental/wetland permitting, hazardous material notifications and abatement, structural reinforcement for seismic resistance, installation of automatic sprinkler systems, mechanical/electrical system upgrades, accessibility compliance, etc. In particular, the existing buildings proposed for Police/Fire Department use fall under Seismic Hazard Category 3 of the MA State Building Code and will require, with few exceptions, that the existing buildings be upgraded to fully comply with structural seismic requirements for new construction. The scope of renovation work, in all of the existing buildings, will also trigger full compliance with MA Architectural Access Board regulations for new construction.

POTENTIAL FOR FUTURE EXPANSION: Each option was assessed for its potential, at some point in the future, to be expanded. Larger sites or those with level topography have greater potential for expansion than smaller sites or those with steep slopes.

SUMMARY OF DESIGN OPTIONS:

Each of the design options that follow addresses a solution for each Town department including Town Offices, Senior Center, Police Department, Fire Department and DPW. In some cases, the same solution for a particular Town department may apply to more than one design option (i.e. all design options assume a new DPW facility on Paul X. Tivnan Drive). Drawings are referenced (in parentheses) for each solution and can be found, along with that solution's merits and limitations, on the pages following the summary.

OPTION 1A:

- DPW: New building on Paul Tivnan Drive site (refer to SKA/3.1).
- Town Offices/Senior Center: New 1-story building on Prescott Street behind existing Mixter building; Mixter building to be demolished after construction (refer to SKA/1.1).
- Police Department: Renovations to existing Worcester Street/Rt.12 DPW building (refer to SKA/2.1 and 2.2).
- Fire Department: Addition and renovations to existing Worcester Street/Rt.12 Police/Fire Station (refer to SKA/2.1 and 2.2).

OPTION 1B:

- DPW: New building on Paul Tivnan Drive site (refer to SKA/3.1).
- Town Offices/Senior Center: New 1-story building on Prescott Street in front of existing Mixter building; Mixter building to be demolished after construction (refer to SKA/1.3).
- Police Department: Renovations to existing Worcester Street/Rt.12 DPW building (refer to SKA/2.1 and 2.2).
- Fire Department: Addition and renovations to existing Worcester Street/Rt.12 Police/Fire Station (refer to SKA/2.1 and 2.2).

OPTION 2:

- DPW: New building on Paul Tivnan Drive site (refer to SKA/3.1).
- Town Offices/Senior Center: Renovations to existing Prescott Street Mixter building (refer to SKA/1.4).
- Police Department: Renovations to existing Worcester Street/Rt.12 DPW building (refer to SKA/2.1 and 2.2).
- Fire Department: Addition and renovations to existing Worcester Street/Rt.12 Police/Fire Station (refer to SKA/2.1 and 2.2).

OPTION 3:

- DPW: New building on Paul Tivnan Drive site (refer to SKA/3.1).
- Town Offices/Senior Center: New 2-story building on Sterling Street/Rt.12 Mixter leaching field site; Mixter building to be demolished after construction (refer to SKA/1.2)
- Police Department: Renovations to existing Worcester Street/Rt.12 DPW building (refer to SKA/2.1 and 2.2).
- Fire Department: Addition and renovations to existing Worcester Street/Rt.12 Police/Fire Station (refer to SKA/2.1 and 2.2).

OPTION 4:

- DPW: New building on Paul Tivnan Drive site (refer to SKA/3.1).
- Town Offices: New 1-story building on Prescott Street behind existing Mixter building (refer to SKA/1.6); Mixter building to be demolished after construction.
- Senior Center: New 1-story building on Sterling Street/Rt.12 Mixter leaching field site (refer to SKA/1.6).
- Police Department: Renovations to existing Worcester Street/Rt.12 DPW building (refer to SKA/2.1 and 2.2).
- Fire Department: Addition and renovations to existing Worcester Street/Rt.12 Police/Fire Station (refer to SKA/2.1 and 2.2).

OPTION 5A:

- DPW: New building on Paul Tivnan Drive site (refer to SKA/3.1).
- Town Offices/Senior Center: New 3-story building on existing Worcester Street/Rt.12 DPW site; DPW building to be demolished prior to new construction (refer to SKA/2.3); Mixter building to be demolished after construction.
- Police Department: New 1-story building on Sterling Street/Rt.12 Mixter leach field site (refer to SKA/1.5).
- Fire Department: Addition and renovations to existing Worcester Street/Rt.12 Police/Fire Station (refer to SKA/2.3).

OPTION 5B:

- DPW: New building on Paul Tivnan Drive site (refer to SKA/3.1).
- Town Offices: 3-story addition to existing Worcester Street/Rt.12 DPW building (refer to SKA/2.4); Mixter building to be demolished after construction.
- Senior Center: Renovations to existing Worcester Street/Rt.12 DPW building (refer to SKA/2.4).
- Police Department: New 1-story building on Sterling Street/Rt.12 Mixter leach field site (refer to SKA/1.5).
- Fire Department: Addition and renovations to existing Worcester Street/Rt.12 Police/Fire Station (refer to SKA/2.4).

SKA/1.1-
Option 1A

Prescott Street Site Plan- Town Offices and Senior Center-

Merits

- Entire Mixter Building site is made available for recreation or other use.
- Town Offices and Senior Center have more civic presence on Route 12 than on Prescott Street.
- New building satisfies program requirements efficiently.
- Minimal construction impact to Mixter Building occupants.

Limitations

- Limited potential for future expansion.
- Access to existing residence must be maintained.
- Large amount of impervious surface (and associated drainage infrastructure) is created.
- Additional cost of demolishing existing leach field.

SKA/1.2-3 Prescott Street Site Plan- Town Offices and Senior Center- Option

Merits

- New building satisfies program requirements efficiently with potential for future expansion.
- Phasing allows simultaneous occupancy and construction.

Limitations

- Temporary loss of existing ball field during construction.
- Some construction impact (parking, access, materials handling, etc.) to both Mixter Building occupants and contractors.

SKA/1.3-1B

Prescott Street Site Plan- Town Offices and Senior Center- Option

SKA/1.4-2 Prescott Street Site Plan- Town Offices and Senior Center- Option

Merits

- Entire Mixter Building site is made available for new Town Office building, recreation, or other use.
- Police Department building has prominent civic presence on Route 12.
- New Police Department building satisfies program requirements efficiently, with capability for future expansion.
- Minimal construction impact to Mixter Building occupants, assuming that either (1) the existing DPW building can be renovated and expanded for Town Office/Senior Center use, or (2) a new Town Office building can be constructed behind the existing Mixter Building and the existing DPW building renovated for the Senior Center.

Limitations

- Access to existing residence must be maintained
- Additional cost of demolishing existing leach field.
- Contingent upon Town Offices and Senior Center being developed elsewhere (see Merits).
- Police and Fire Department do not benefit from shared common facilities (i.e. emergency generator, communications equipment, etc.).

SKA/1.5- Options 5A & 5B

Prescott Street Site Plan- Police Station-

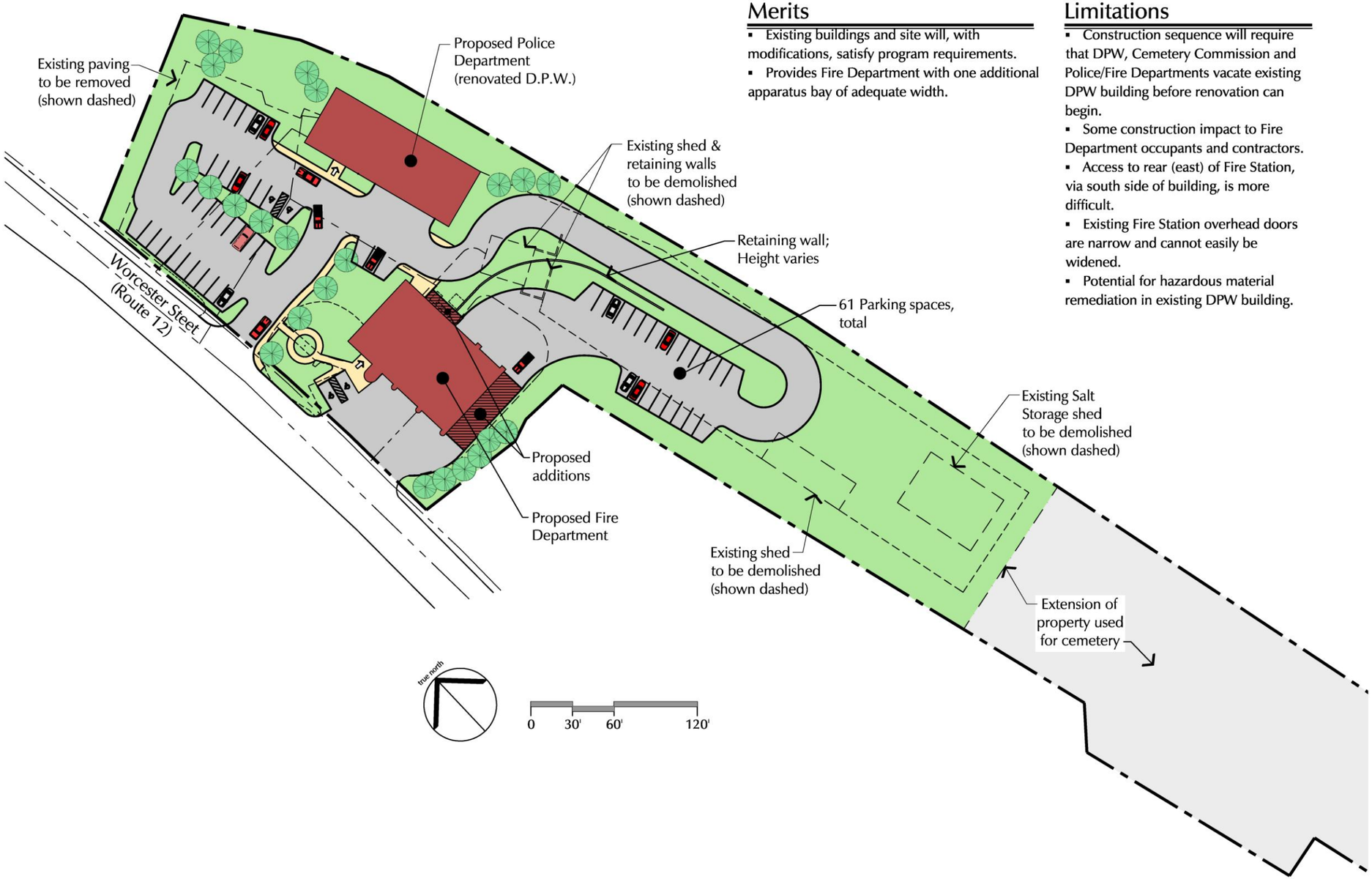
Merits

- Senior Center has more civic presence on Route 12 than on Prescott Street.
- New building satisfies program requirements efficiently.
- Minimal construction impact to Mixter Building occupants.

Limitations

- Limited potential for Senior Center future expansion.
- Access to existing residence must be maintained.
- Large amount of impervious surface (and associated drainage infrastructure) is created.
- Additional cost of demolishing existing leach field.

SKA/1.6- Prescott Street Site Plan- Town Offices and Senior Center- Option 4



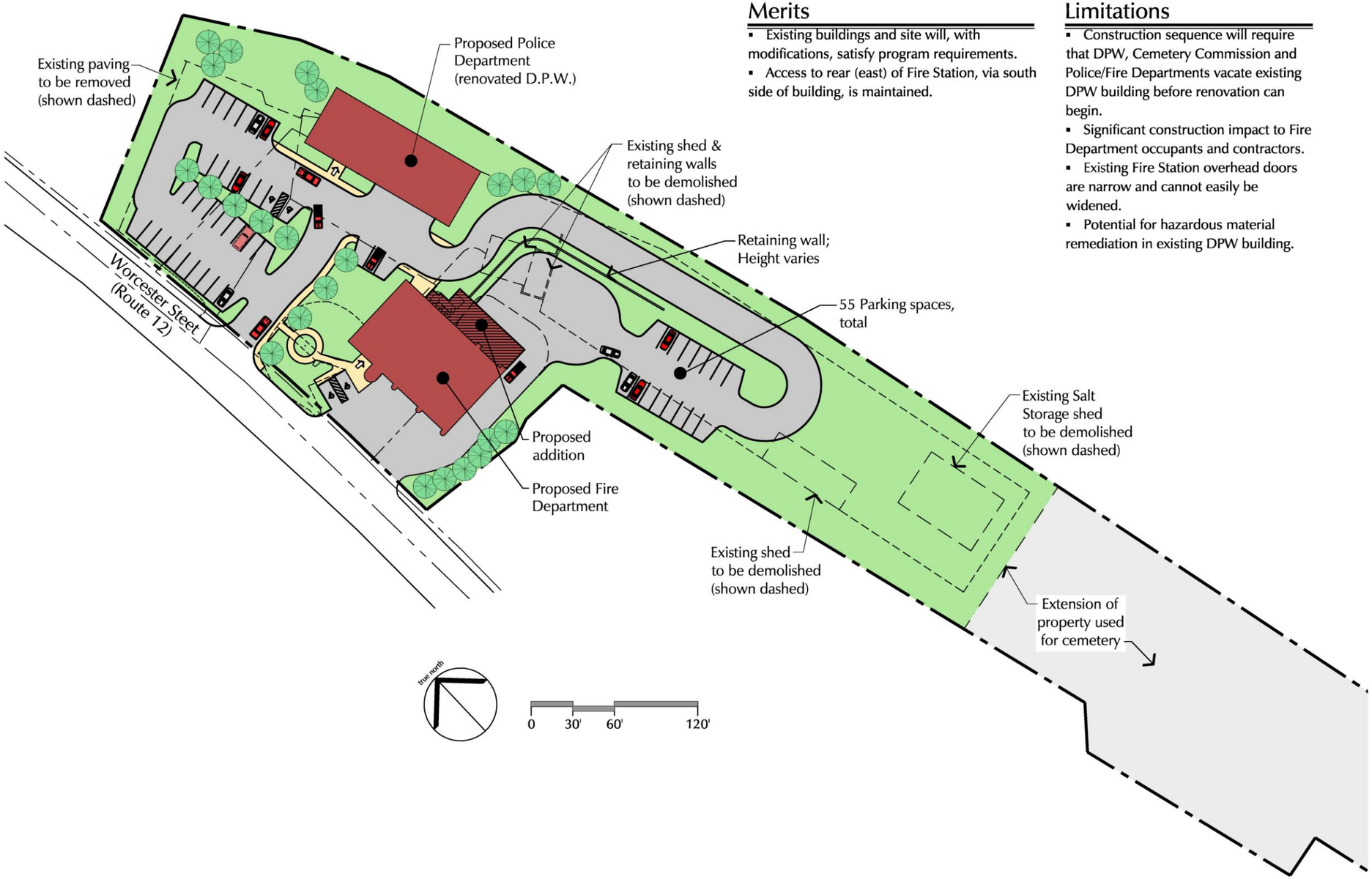
Merits

- Existing buildings and site will, with modifications, satisfy program requirements.
- Provides Fire Department with one additional apparatus bay of adequate width.

Limitations

- Construction sequence will require that DPW, Cemetery Commission and Police/Fire Departments vacate existing DPW building before renovation can begin.
- Some construction impact to Fire Department occupants and contractors.
- Access to rear (east) of Fire Station, via south side of building, is more difficult.
- Existing Fire Station overhead doors are narrow and cannot easily be widened.
- Potential for hazardous material remediation in existing DPW building.

SKA/2.1-3, & 4 Worcester Street Site Plan- Police and Fire Stations- Option 1A, 1B, 2,



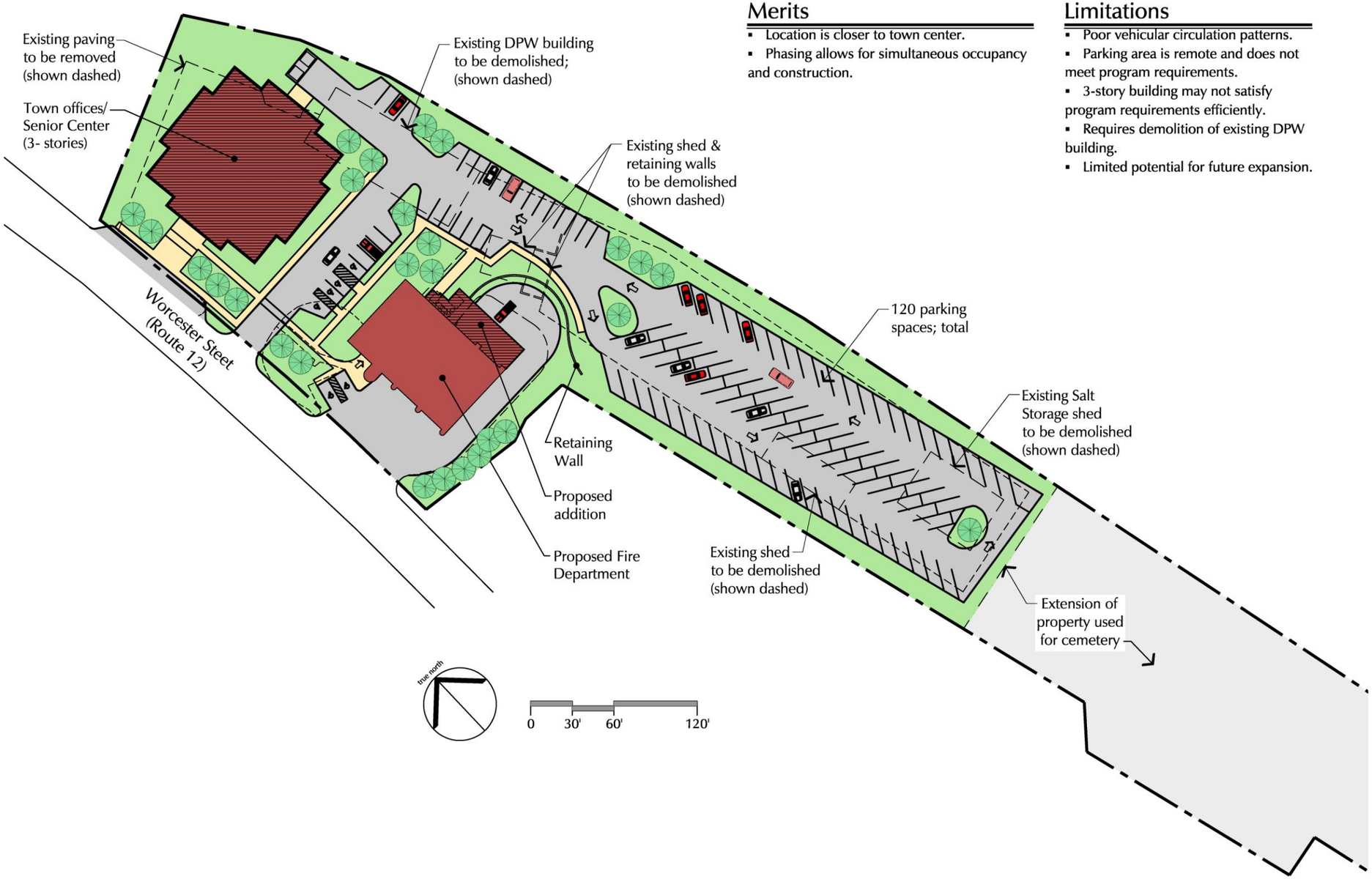
Merits

- Existing buildings and site will, with modifications, satisfy program requirements.
- Access to rear (east) of Fire Station, via south side of building, is maintained.

Limitations

- Construction sequence will require that DPW, Cemetery Commission and Police/Fire Departments vacate existing DPW building before renovation can begin.
- Significant construction impact to Fire Department occupants and contractors.
- Existing Fire Station overhead doors are narrow and cannot easily be widened.
- Potential for hazardous material remediation in existing DPW building.

SKA/2.2-1B, 2, 3, & 4 Worcester Street Site Plan- Police and Fire Stations- Option 1A,



Merits

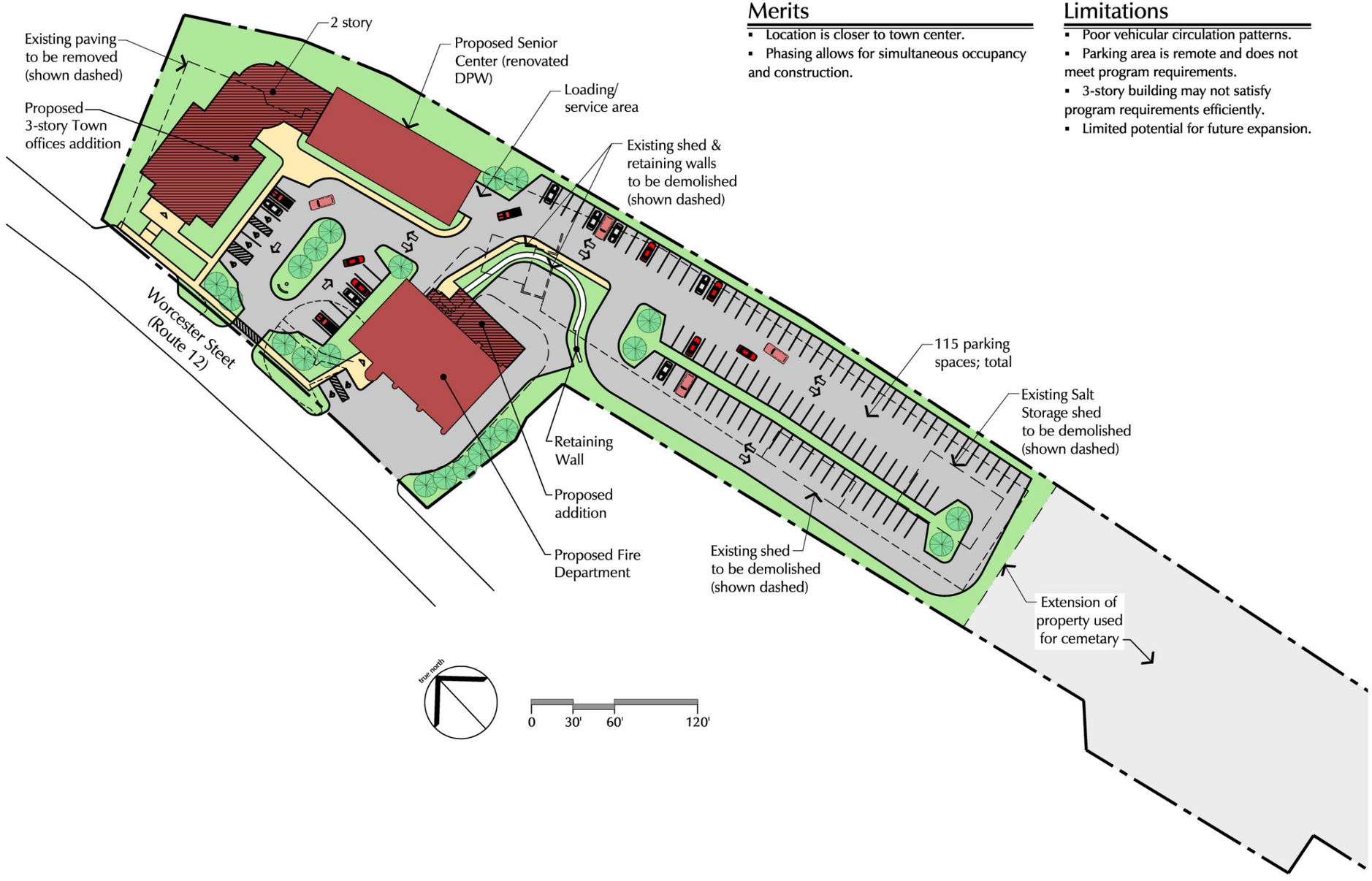
- Location is closer to town center.
- Phasing allows for simultaneous occupancy and construction.

Limitations

- Poor vehicular circulation patterns.
- Parking area is remote and does not meet program requirements.
- 3-story building may not satisfy program requirements efficiently.
- Requires demolition of existing DPW building.
- Limited potential for future expansion.

SKA/2.3-
Option 5A

Worcester Street Site Plan- Town Offices, Senior Center, and Fire Station-



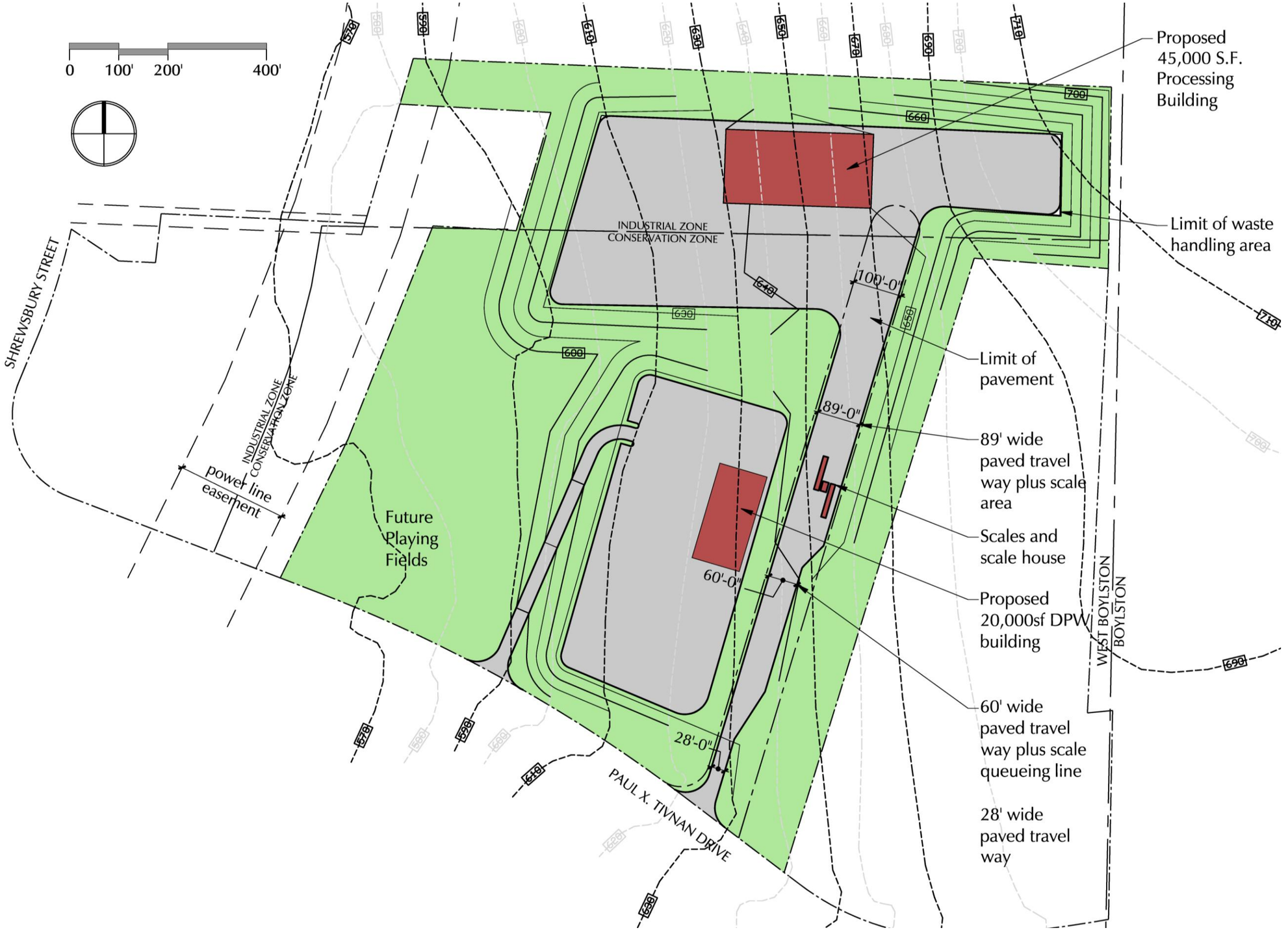
Merits

- Location is closer to town center.
- Phasing allows for simultaneous occupancy and construction.

Limitations

- Poor vehicular circulation patterns.
- Parking area is remote and does not meet program requirements.
- 3-story building may not satisfy program requirements efficiently.
- Limited potential for future expansion.

SKA/2.4- Worcester Street Site Plan- Town Offices, Senior Center, and Fire Station- Option 5B



SKA/3.1-5A, & 5B

Paul X. Tivnan Drive Site Plan- Department of Public Works- Options 1A, 1B, 2, 3, 4,

PART 5 – RECOMMENDATIONS

NARRATIVE:

Following a period of review and comment, the Building Committee selected Option 1a for refinement. Several factors influenced the Committee's decision, among them the following:

- Combining Town Offices and Senior Center into a single building allows potential for shared resources (i.e. site utilities, parking, meeting rooms, stairs, elevator, fire protection service equipment, plumbing fixtures, HVAC equipment and controls, electrical main service panels and equipment, fire alarm system, etc.). In addition to the obvious initial construction cost benefit, there is a long-term benefit to the Town because they will not be servicing and maintaining duplicate systems.
- New construction is generally more efficient than renovation in terms of space use. A new building can be designed to provide program spaces with minimal wasted space, while a renovation is subject to existing conditions that may require additional space, and associated cost.
- Locating the Town Offices/Senior Center on the Mixter site reserves room for future expansion and has little, if any, impact on the existing Little League baseball field.
- The existing Mixter Building may remain fully occupied while the new building is under construction. This would not be possible for any option involving the renovation of the Mixter Building.
- The close proximity of the Police and Fire Departments will, despite their being in separate buildings, still allow for some shared resources (i.e. emergency backup generator, communications equipment, etc.).
- Scope of work recommendations, budget cost recommendations, proposed site/floor plans and graphic 3D views, for each building, begin on the following page.

PRESCOTT STREET SITE (TOWN OFFICES/SENIOR CENTER)

SITEWORK:

The Prescott Street site and building construction may be impacted, to some degree, by the presence of the existing Mixter Building during construction. A separate fenced and gated construction entrance will most likely be located on the south side of the existing building. Unless the Mixter building is demolished prior to construction, the proposed building should be located, at its closest point, at least 15-20 feet away from the existing building to allow space for construction activities (materials handling, staging, access, etc.).

Based on the visible ledge outcroppings, it should be assumed that rock will be encountered during site and building excavation. A phase 1 site investigation, including test borings, has been authorized and will provide preliminary data relative to subsurface conditions. For cost budgeting purposes, a contingency should be carried until such time that the building design has been developed and more detailed geotechnical information is obtained.

The existing onsite sanitary system, presently in use, may be maintained with some modifications. However, municipal sewer service, with adequate capacity for the proposed Town Office/Senior Center building, is reportedly available in Route 12 (Sterling Street) and Horseshoe Drive. It is recommended that a new sanitary connection be made the public sewer in Horseshoe Drive via the existing paved pathway route; this will free up the existing leach field for Town use and remove the danger of future system failure. This study assumes, for cost purposes, that a new sanitary connection will be made only to the property line limit at Horseshoe Drive; offsite improvements (if required) are not included.

The existing water service is referenced, in the Kang Associates study, as 4" asbestos/cement pipe. It is recommended that a new domestic water/fire service be provided from the water main in Prescott Street.

It is recommended that a new underground electrical service, as well as conduits for telephone/data, be provided from the existing overhead wires to the building.

The existing 2-inch high pressure natural gas service from Horseshoe Drive, installed in 2002, should remain to serve the new building. It will, however, require testing and reclassification as a "main" gas service if a new tap is made.

Based on the site assessment made by Hancock Associates, it is assumed that the project will not require a MA DEP notice of intent and Conservation Commission approval. However, due to the potential impact to adjacent residences and resource areas downslope, provisions should be required to prevent unmitigated runoff.

Abatement of hazardous material, if present, is required prior to demolition of the existing Mixter building. Abatement cost recommendations are not included in this study but will be provided as part of the preliminary site investigation/hazardous material inspection report.

Geothermal wells, and associated HVAC equipment, are proposed as an add alternate. While initially more costly, this system would provide long- term cost benefits in lower year-round energy costs.

At the Building Committee's request, the cost of a primary access driveway from Sterling Street (Route 12) to the building is also provided as an add alternate.

ARCHITECTURAL/STRUCTURAL:

Due to its numerous structural and building envelope problems, and the costs associated with remediation, we recommend that the existing building be demolished. It is proposed that the new building be classified as Construction Classification Type 2C, Non-Combustible Unprotected. While it may be possible to classify the building as Type 5B, Combustible Unprotected, this would require that the Senior Center and Town Offices be considered separate buildings, with a fire wall between them, to comply with applicable MA Building Code height/area limitations, and would place significant restrictions on the amount of windows, doors and openings between the two uses. If classified as Type 2C, the Use Groups for Town Offices (B-Business) and Senior Center (A3-Assembly) can be considered multiple uses within a single building. In addition, there may be long term cost benefits to the Town in terms of insuring a Type 2C, as opposed to a Type 5B, building. As new construction, the entire building must comply with AAB regulations for accessibility.

MECHANICAL:

The building will be equipped with an automatic fire suppression system. A gas-fired boiler system, with variable air volume air distribution and hot water baseboard radiation, is proposed. Cooling of the entire building will be provided by either a central chiller, or by roof and/or pad-mounted condensers. An add alternate for geothermal heating/cooling is proposed.

ELECTRICAL:

The existing electrical service should be replaced with a new pad-mounted transformer and underground secondary cables. Energy-efficient fluorescent lighting is proposed and program spaces should be equipped with occupancy sensors. Site lighting should be pole and building-mounted, metal halide lamp, cutoff-type fixtures to control light spillage onto adjacent properties. The building should be equipped with a fully addressable fire alarm system, motion and door sensor security system, telephone system and Cat-5E data network system with wireless capabilities. Public meeting rooms should be equipped with video cameras and, if serving more than 50 occupants, assisted listening sound systems.

BUDGET RECOMMENDATIONS:

- For cost budgeting purposes, the following assumptions were made:
- Demolition of existing Mixter building is included; hazardous materials abatement is not included.
- New steel-framed building with steel floor and roof decking.
- Reinforced concrete foundation walls, piers and footings.
- Concrete floor slabs (on-grade and elevated).
- Light gauge steel stud exterior wall framing with glass fiber reinforced gypsum sheathing, liquid-applied vapor-permeable air barrier, rigid insulation and brick masonry exterior veneer system.
- Plastic laminate millwork.
- Standing seam metal roofing system with gutters and downspouts; downspouts to be connected to site drainage system.
- Clad wood windows.
- Light gauge steel stud interior wall partition framing with gypsum board base and veneer plaster finish; painted.
- Durable interior finishes such as vinyl composition tile, vinyl-backed carpet tile and ceramic tile.
- Commercial food service equipment in accordance with the building program requirements.
- Residential appliances at lunch/break rooms.
- Typical furnishings (tables, chairs, desks, file cabinets, etc.) and equipment (copiers, fax machines, computers, etc.) are included in the total project cost recommendation.

TOWN OFFICES/SENIOR CENTER BUDGET RECOMMENDATIONS

ITEM NO.	DESCRIPTION	ESTIMATED SCHEDULED VALUE	NOTES
1	Site Acquisition	NA	a
2	Combined Site/Building Construction Cost	$9,058,000	b
2.1	Alternate No. 1 – Geothermal HVAC System	$185,000	
2.2	Alternate No. 2 – Access road from Sterling Street (Route 12)	$668,000	c
3	Architectural/Engineering Fees	$906,000	d
3.1	Architectural/Engineering Fees – Alternates No. 1 & 2	$85,000	d
4	Project Manager	$90,000	e
5	Clerk of the Works	$135,000	f
6	Printing and Document Publication	$8,000	g
7	Furniture and Equipment	$267,000	h
8	Legal and Bond Costs	$10,000	i
9	Hazardous Materials Abatement	TBD	j
10	Surveys, Borings, Testing and Other Professional Support Services	$100,000	k
11	SUB-TOTAL	$11,512,000	
12	Project Contingency	$920,000	l
13	**TOTAL**	$12,432,000	m

NOTES:

a. The Town presently owns the site; this cost summary assumes that additional land taking is not required.

b. Combined Site/Building Construction Cost is based on 29,600 SF two-story new construction building (including 1,670 SF non-program future expansion space) at $306/SF. Demolition of existing Mixter Building is included. Costs are based on middle-to-high range 2009 prevailing wage construction and assume an inflation factor of 4%/year.

c. Alternate No. 2 assumes 1500 LF of 24' wide access road, with sidewalk one side, 3.5" bituminous pavement, 16" gravel base, storm drainage system, removal of existing septic leach field, pole-mounted light fixtures, loam and seed at all disturbed areas, site prep and minimal ledge excavation.

d. Architectural/Engineering fees are based on 10% of Combined Site/Building Construction Cost.

e. Project Manager cost is based on one part-time position for 18 months at $5,000/month.

f. Clerk of the Works cost is based on one full-time position for 18 months at $7,500/month.

g. Assumes 150 sets of printed bid documents (drawings and specifications) at $50/each plus miscellaneous printing costs.

h. Furniture and equipment costs are based on $9/SF and include furniture (desks, chairs, tables, etc.), office equipment (copiers, etc.), technology (computers, printers, hubs, projectors, etc.), telephone system (PBX and handsets), appliances, custodial/maintenance equipment, loose food service items (china, cutlery, pots, pans, etc.) and similar equipment.

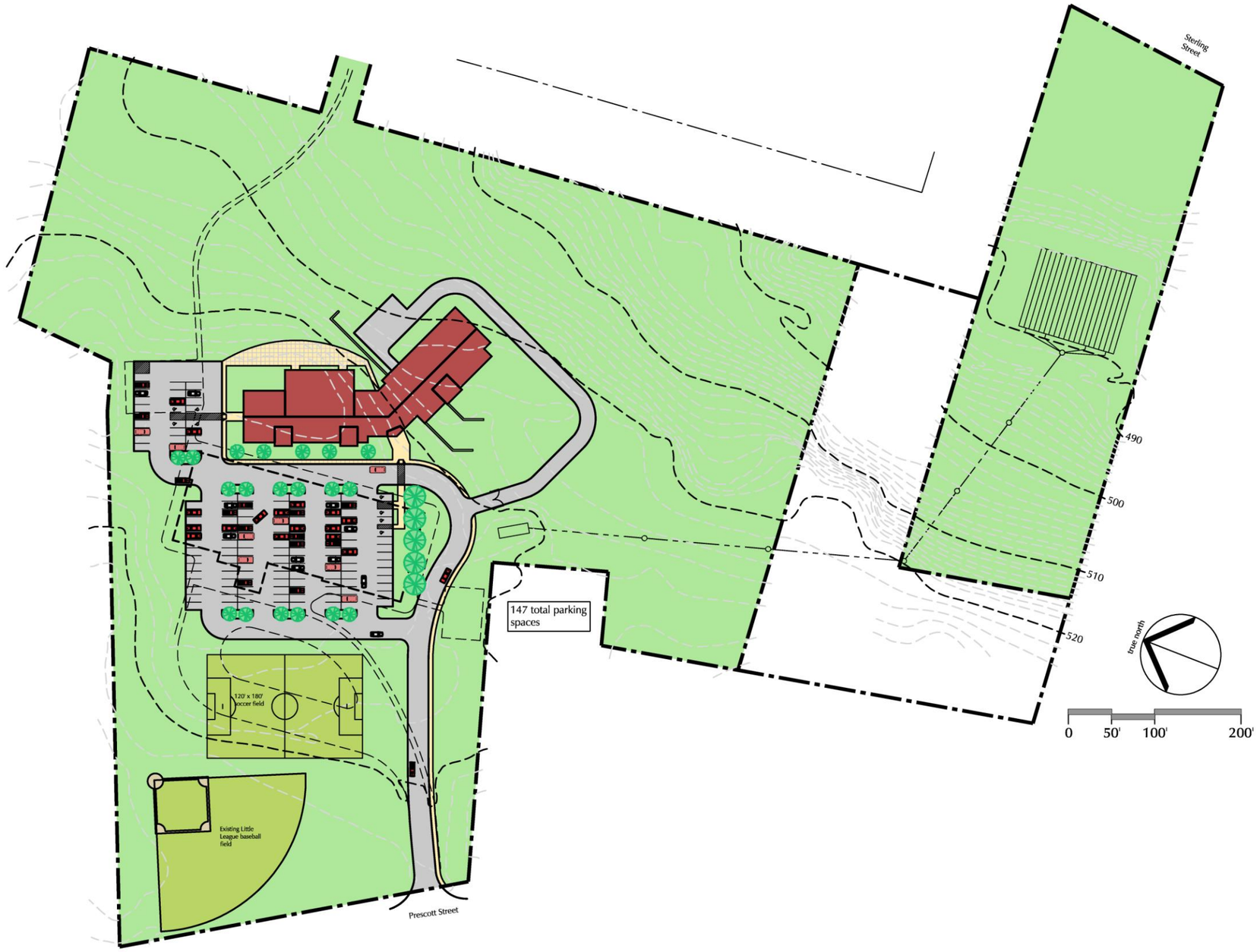
i. Legal costs are estimated based on previous projects and will vary.

j. Hazardous materials abatement is not included; cost recommendations to be determined upon completion of testing program.

k. Includes land survey, additional geotechnical exploration and recommendations, independent cost estimating, furniture/equipment design/administration fees, and construction testing/monitoring (soils, concrete, steel, roofing, bituminous concrete, etc.).

l. Project contingency is based on 8% of SUB-TOTAL (line item 11).

m. Building operation costs (oil/gas, electric, water and sewer utilities) are not included in this cost summary but are estimated to be at least $1.65/SF/Year

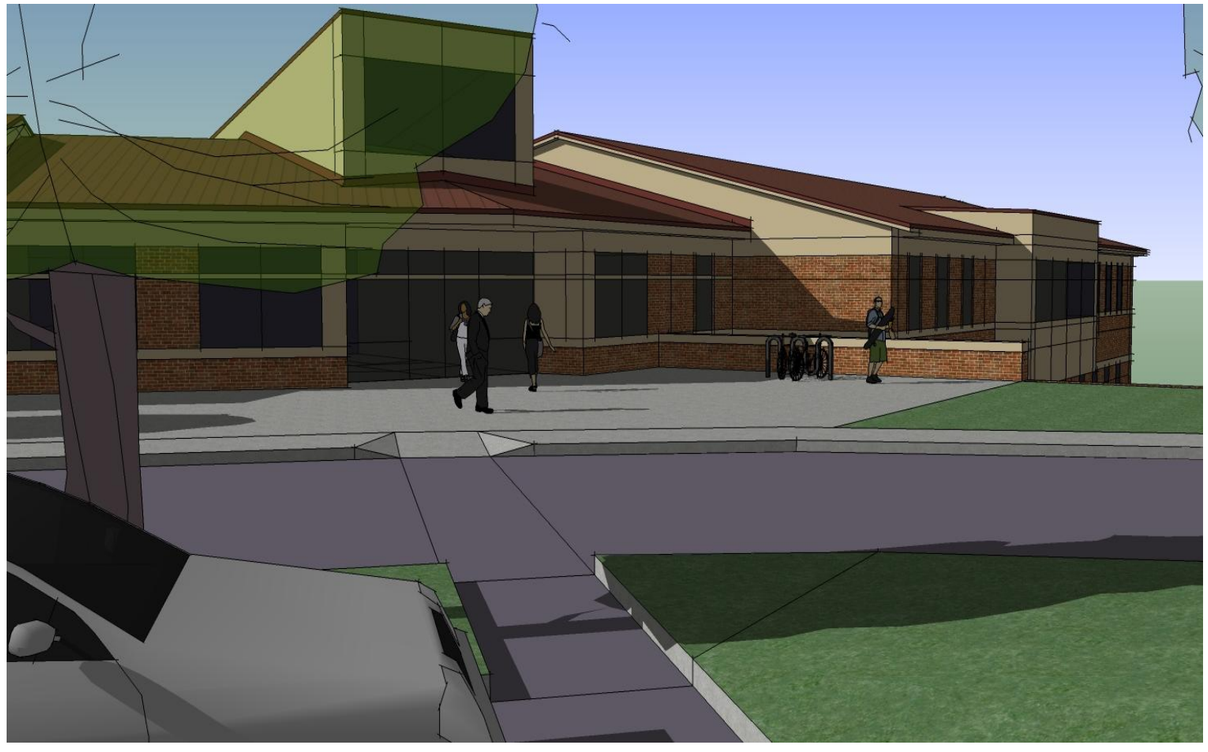


Option 1A- Proposed Prescott Street Site Plan- Town Offices and Senior Center

ENTRY LEVEL FLOOR PLAN

LOWER LEVEL FLOOR PLAN

Option 1A- Proposed Floor Plans- Town Offices and Senior Center



Main Entry

Senior Center Wing and Patio

Senior Center Wing and Parking

Option 1A- Proposed Town Offices / Senior Center 3D Views

Town Office Wing

Aerial View From Rear

Entry Drive and Parking

Main Entry and Town Offices Wing

Option 1A- Proposed Town Offices / Senior Center 3D Views

WORCESTER STREET SITE (POLICE STATION)

SITEWORK:

The Worcester Street site and building renovations (to both Fire and Police stations) will be impacted by the need to maintain and operate public safety functions during construction. This study recommends that the DPW, Cemetery Commission, Police and Fire Departments vacate the existing DPW garage building entirely, allowing for its renovation while unoccupied. Trailer or "pod" type storage units may be necessary for Police and Fire Department items presently stored on the upper level and in the various structures on the site. The area immediately around the building, as well as a section of the existing parking area, should be fenced and gated.

The two existing covered sheds to the south of the building, currently used for DPW vehicle and equipment storage, are proposed to be demolished to allow regrading for expansion of the Fire station as well as new parking. The salt shed could remain, however it is questionable as to whether it would be suitable for any other use and we have assumed that it will be demolished. The existing above-ground fuel and waste oil tanks are proposed to be removed from the site; more detailed inspection and testing is required to determine whether they are suitable for reuse elsewhere.

It is assumed that the existing sanitary and domestic/fire water services to the building will remain. A new underground electric service and pad-mounted transformer is proposed. A new emergency backup power generator is also proposed to serve both Police and Fire stations, replacing the existing generator serving the Police/Fire station. The utility pole in the middle of the parking area should be relocated or, if possible, removed entirely. It is recommended that a new underground duct bank of conduits be installed between the Police and Fire stations for data/communications use.

Because of the site's proximity to the Wachusett Reservoir and its tributaries, a MA DEP notice of intent and Conservation Commission approval may be required. If so, a single notice should be submitted for both Police and Fire station projects, due to the overlap of site work between the two projects. At the very least, erosion controls will be required to prevent silted runoff from entering the existing drainage culvert near the north (downslope) part of the site. It is assumed that a new stormwater drainage system, including some method of providing subsurface storage capability, will be required due to the proposed increase in impervious surface area and space limitations for surface detention.

Abatement of hazardous material, if present, is required prior to renovation of the existing DPW garage. Abatement cost recommendations are not included in this study but will be provided as part of the preliminary site investigation/hazardous material inspection report.

ARCHITECTURAL/STRUCTURAL:

The building will be classified as Construction Classification Type 3B, Noncombustible/Combustible Unprotected. Police Stations fall under Use Group B-Business. The cost of proposed renovations will trigger the threshold for full compliance with AAB accessibility regulations for new construction. An elevator is proposed due to the high probability of public access to the upper level training room (note that if the proposed elevator is eliminated, AAB requires an affidavit, signed by the Select Board and filed with the Registry of Deeds, stating that the upper levels are for use only by employees and will never be used by the public). The existing raised floor level at the south most bay of the upper level is proposed to be removed and infilled with new floor structure to match the existing floor elevation. New floor openings are proposed where required for insertion of stairwells; however the existing structural system of heavy wood beams, columns and floor planking will largely be left in place. The public safety status of the building will trigger a higher level of compliance with MA Building Code relative to seismic performance; this will require more detailed study to determine the extent of modifications.

MECHANICAL:

The existing automatic fire suppression system will require modifications to provide proper coverage to all program areas, particularly at the lower level. All new plumbing fixtures and supply/waste system will be provided. The existing HVAC system will be replaced its entirety. It is assumed that the entire building will be heated and cooled using gas-fired hot water boilers and rooftop or pad-mounted condensers. Refer to the Appendices section for detailed Mechanical systems survey and recommendations.

ELECTRICAL:

The existing overhead main electrical and data services are inadequate and should be replaced. A new main electrical service with a pad-mounted transformer, to serve both Police and Fire stations, is proposed. Energy-efficient fluorescent lighting is proposed and program spaces should be equipped with occupancy sensors. Site lighting should be pole and building-mounted, metal halide lamp, cutoff-type fixtures to control light spillage onto adjacent properties. The building should be equipped with a fully addressable fire alarm system, motion and door sensor security system, telephone system and Cat-5E data network system with wireless capabilities. Public meeting rooms should be equipped with video cameras and, if serving more than 50 occupants, assisted listening sound systems. Refer to the Appendices section for detailed Electrical systems survey and recommendations.

BUDGET RECOMMENDATIONS:

- For cost budgeting purposes, the following assumptions were made:
- Existing brick masonry exterior to be cleaned and repointed where required.
- Extraordinary measures are not required to satisfy seismic compliance requirements.
- New reinforced CMU elevator shaft.
- Steel stairs with concrete fill treads.
- Plastic laminate millwork.
- Existing PVC membrane roofing to remain.
- Fiberglass batt insulation and vapor barrier at all exterior walls.
- Clad wood windows.
- Aluminum entry doors and framing.
- Steel doors and frames.
- Insulated steel sectional overhead garage doors.
- Electronic keycard finish hardware system.
- Light gauge steel stud interior wall partition framing with gypsum board base and veneer plaster finish; painted.
- Painted Concrete Masonry Unit (CMU) walls at the cell block, vehicle garage, sallyport and other areas subject to abuse.
- Durable interior finishes such as vinyl composition tile, vinyl-backed carpet tile and ceramic tile.
- Acoustical ceiling tile system throughout.
- Residential appliances at lunch/break rooms and laundry room.
- Metal lockers at locker rooms and evidence room.
- Solid plastic toilet and shower compartments.
- Typical furnishings (tables, chairs, desks, file cabinets, etc.) and equipment (copiers, fax machines, computers, etc.) are included in the total project cost recommendation.
- Dispatch consoles and communications equipment, including 911 emergency response systems, are included in the total project cost recommendation.
- 2500-lb capacity conventional holed hydraulic elevator.

POLICE STATION BUDGET RECOMMENDATIONS

ITEM NO.	DESCRIPTION	ESTIMATED SCHEDULED VALUE	NOTES
1	Site Acquisition	NA	a
2	Combined Site/Building Construction Cost	$2,274,000	b
3	Architectural/Engineering Fees	$250,000	c
4	Project Manager	$60,000	d
5	Clerk of the Works	$90,000	e
6	Printing and Document Publication	$6,000	f
7	Furniture and Equipment	$121,000	g
8	Legal and Bond Costs	$10,000	h
9	Hazardous Materials Abatement	TBD	i
10	Surveys, Borings, Testing and Other Professional Support Services	$60,000	j
11	SUB-TOTAL	$2,871,000	
12	Project Contingency	$230,000	k
13	**TOTAL**	$3,101,000	l

NOTES:

a. The Town presently owns the site; this cost summary assumes that additional land taking is not required.

b. Combined Site/Building Construction Cost is based on 10,108 SF renovated existing building space at $225/SF. Costs are based on middle-to-high range 2009 prevailing wage construction and assume an inflation factor of 4%/year.

c. Architectural/Engineering fees are based on 11% of Combined Site/Building Construction Cost.

d. Project Manager estimate is based on one part-time position for 12 months at $5,000/month.

e. Clerk of the Works estimate is based on one full-time position for 12 months at $7,500/month.

f. Assumes 150 sets of printed bid documents (drawings and specifications) at $40/each plus miscellaneous printing costs.

g. Furniture and equipment costs are based on $12/SF and include furniture (desks, chairs, tables, etc.), office equipment (copiers, etc.), technology (computers, printers, hubs, projectors, etc.), telephone system (PBX and handsets), dispatch communications system, 911 emergency response system, video surveillance system, appliances, custodial/maintenance equipment and similar equipment.

h. Legal costs are estimated based on previous projects and will vary.

i. Hazardous materials abatement is not included; cost recommendations to be determined upon completion of testing program.

j. Includes land survey, additional geotechnical exploration and recommendations, independent cost estimating, furniture/equipment design/administration fees, and construction testing/monitoring (soils, concrete, steel, roofing, bituminous concrete, etc.).

k. Project contingency is based on 8% of SUB-TOTAL (line item 11).

l. Building operation costs (oil/gas, electric, water and sewer utilities) are not included in this cost summary but are estimated to be at least $1.65/SF/Year.

WORCESTER STREET SITE (FIRE STATION)

SITEWORK:

As previously noted, the Worcester Street site and building renovations (to both Fire and Police stations) will be impacted by the need to maintain and operate public safety functions during construction. This study recommends that, prior to beginning any Fire station renovations, the Police Department move into the completely renovated DPW garage. This will free up space and, by consolidating Fire Department operations, allow work to begin on a section-by-section or floor-by-floor basis. At some point, it is assumed that Fire Department operations will need to temporarily share facilities with the relocated Police Department while the building undergoes renovations. In addition, the proposed demolition/reconstruction work associated with the fire apparatus garage will require that the fire apparatus be moved out of the building while that work is completed.

The proposed addition at the rear (east) of the building will require, in addition to the demolition of the existing open DPW vehicle shed, a significant amount of earthwork, fill and regrading to permit emergency vehicles to enter and exit at the back. Because of the elevation differential between the fire apparatus bays and the new Police station entry level, as well as their close proximity and the need for vehicles to pass between the two buildings, a modular segmental block retaining wall and guardrail is proposed along the edge of the Fire Department turn-around.

The existing compressed air tanks and underground LPG tank in the rear of the building are proposed to be relocated. While the existing emergency generator appears to be relatively recent, its condition is unknown and it is assumed that a new emergency generator, with capacity to serve both Police and Fire Departments, will be provided.

It is assumed that the existing sanitary and domestic water services to the building will remain, and that the existing 6" water service has adequate capacity to support a new automatic fire suppression system. New conduits to the building are proposed for electrical, emergency electrical and data/communications; at some point these services will have to be switched over from old to new. As previously noted for the proposed Police station, it is proposed that the Fire and Police stations share combined main electric and emergency electric services.

New and existing roof drains are proposed to be tied in to a new stormwater drainage system that serves the combined Police/Fire Department site. Existing dry wells are proposed to be eliminated.

Abatement of hazardous material, if present, is required prior to renovation of the existing Police/Fire station. Abatement cost recommendations are not included in this study but will be provided as part of the preliminary site investigation/hazardous material inspection report.

ARCHITECTURAL/STRUCTURAL:

The building will be classified as Construction Classification Type 3B, Noncombustible/Combustible Unprotected. Fire Stations fall under Use Group B-Business. The cost of proposed renovations will trigger the threshold for full compliance with AAB accessibility regulations for new construction. An elevator is proposed due to the high probability of public access to the upper level training room (see previous note regarding Police Station). The public safety status of the building will trigger a higher level of compliance with MA Building Code relative to seismic performance; this will require more detailed study to determine the extent of modifications.

The issues related to the fire apparatus garage bay widths were previously noted, in the executive summary, as a major concern. This study recommends that the existing fire apparatus garage be reconfigured into four equally spaced bays to provide the required room for access, maneuvering and maintenance. The existing overhead door openings, including the doors, CMU jambs and precast concrete lintels, are proposed to be removed. The existing precast concrete tee roof structure which spans the apparatus garage may remain. New steel columns and beams, braced and tied into the roof structure, will be required to restore the structural capacity lost by the elimination of existing structure. The existing fire apparatus will have to be temporarily kept outdoors, or elsewhere, while these renovations are performed.

LPA has assumed that the building will remain occupied during construction. Given that the Police Department will have vacated the building, it should be possible to perform renovations on a floor-by-floor or area-by-area basis without undue disruption to the occupants.

MECHANICAL:

The building will be equipped with a new automatic fire suppression system. All new plumbing fixtures will be provided. The existing HVAC system is proposed to remain and be modified to support the renovations. New HVAC equipment will be provided to support the new building addition and to provide adequate ventilation at existing areas. Refer to the Appendices section for detailed Mechanical systems survey and recommendations.

ELECTRICAL:

The existing overhead main electrical and data services are inadequate and should be replaced. A new main electrical service with a pad-mounted transformer, to serve both Police and Fire stations, is proposed. Energy-efficient fluorescent lighting is proposed and program spaces should be equipped with occupancy sensors. Site lighting should be pole and building-mounted, metal halide lamp, cutoff-type fixtures to control light spillage onto adjacent properties. The building should be equipped with a fully addressable fire alarm system, motion and door sensor security system, telephone system and Cat-5E data network system with wireless capabilities. Public meeting rooms should be equipped with video cameras and, if serving more than 50 occupants, assisted listening sound systems. Refer to the Appendices section for detailed Electrical systems survey and recommendations.

BUDGET RECOMMENDATIONS:

- For cost budgeting purposes, the following assumptions were made:
- Existing CMU masonry exterior to be cleaned and repointed where required.
- Extraordinary measures are not required to satisfy seismic compliance requirements.
- New reinforced CMU elevator shaft.
- Steel stairs with concrete fill treads.
- Plastic laminate millwork.
- New adhered PVC membrane roofing system.
- Fiberglass batt insulation and vapor barrier at all exterior walls.
- Clad wood windows.
- Aluminum entry doors and framing.
- Insulated steel sectional overhead garage doors; 12' wide x 14' high.
- Electronic keycard finish hardware system.
- Light gauge steel stud interior wall partition framing with gypsum board base and veneer plaster finish; painted.
- Painted Concrete Masonry Unit (CMU) walls at the fire apparatus garage.
- Durable interior finishes such as vinyl composition tile, vinyl-backed carpet tile and ceramic tile.
- Acoustical ceiling tile system throughout.
- Residential appliances at lunch/break rooms.
- Existing commercial washing machine to be reused.
- Metal lockers at locker rooms.
- Solid plastic toilet and shower compartments.
- Typical furnishings (tables, chairs, desks, file cabinets, etc.) and equipment (copiers, fax machines, computers, etc.) are included in the total project cost recommendation.
- Dispatch consoles and communications equipment, including 911 emergency response systems, are included in the total project cost recommendation.
- 2500-lb capacity conventional holed hydraulic elevator.

FIRE STATION BUDGET RECOMMENDATIONS

ITEM NO.	DESCRIPTION	ESTIMATED SCHEDULED VALUE	NOTES
1	Site Acquisition	NA	a
2	Combined Site/Building Construction Cost	$3,150,000	b
3	Architectural/Engineering Fees	$347,000	c
4	Project Manager	$60,000	d
5	Clerk of the Works	$90,000	e
6	Printing and Document Publication	$6,000	f
7	Furniture and Equipment	$150,000	g
8	Legal and Bond Costs	$10,000	h
9	Hazardous Materials Abatement	TBD	i
10	Surveys, Borings, Testing and Other Professional Support Services	$60,000	j
11	SUB-TOTAL	$3,873,000	
12	Project Contingency	$310,000	k
13	**TOTAL**	$4,183,000	l

NOTES:

a. The Town presently owns the site; this cost summary assumes that additional land taking is not required.

b. Combined Site/Building Construction Cost is based on 10,270 SF renovated existing building space, plus a 2,230 SF addition, for a total building area of 12,500 SF at $252/SF. Costs are based on middle-to-high range 2009 prevailing wage construction and assume an inflation factor of 4%/year.

c. Architectural/Engineering fees are based on 11% of Combined Site/Building Construction Cost.

d. Project Manager estimate is based on one part-time position for 12 months at $5,000/month.

e. Clerk of the Works estimate is based on one full-time position for 12 months at $7,500/month.

f. Assumes 150 sets of printed bid documents (drawings and specifications) at $40/each plus miscellaneous printing costs.

g. Furniture and equipment costs are based on $12/SF and include furniture (desks, chairs, tables, etc.), office equipment (copiers, etc.), technology (computers, printers, hubs, projectors, etc.), telephone system (PBX and handsets), dispatch communications system, 911 emergency response system, video surveillance system, appliances, custodial/maintenance equipment and similar equipment.

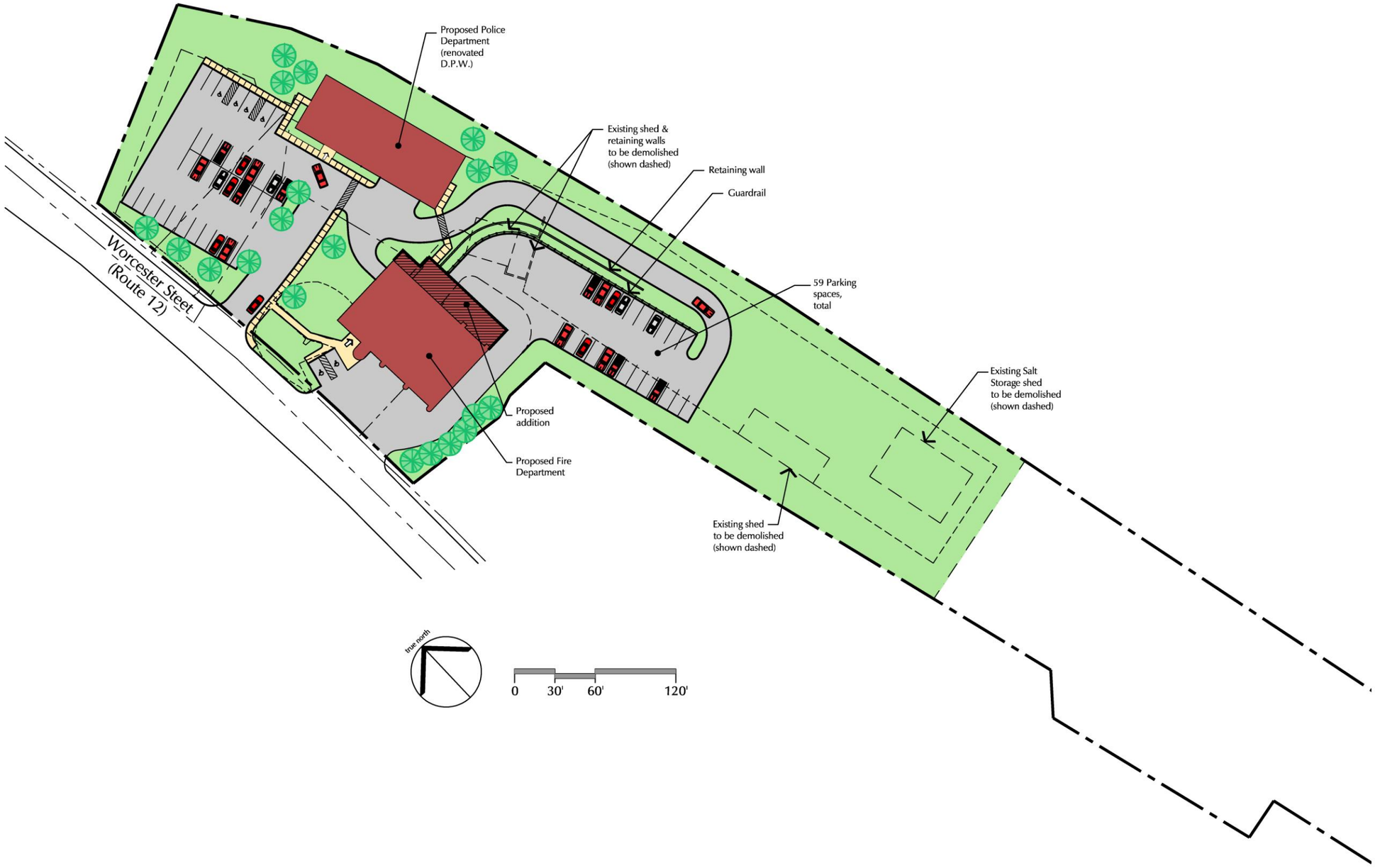
h. Legal costs are estimated based on previous projects and will vary.

i. Hazardous materials abatement is not included; cost recommendations to be determined upon completion of testing program.

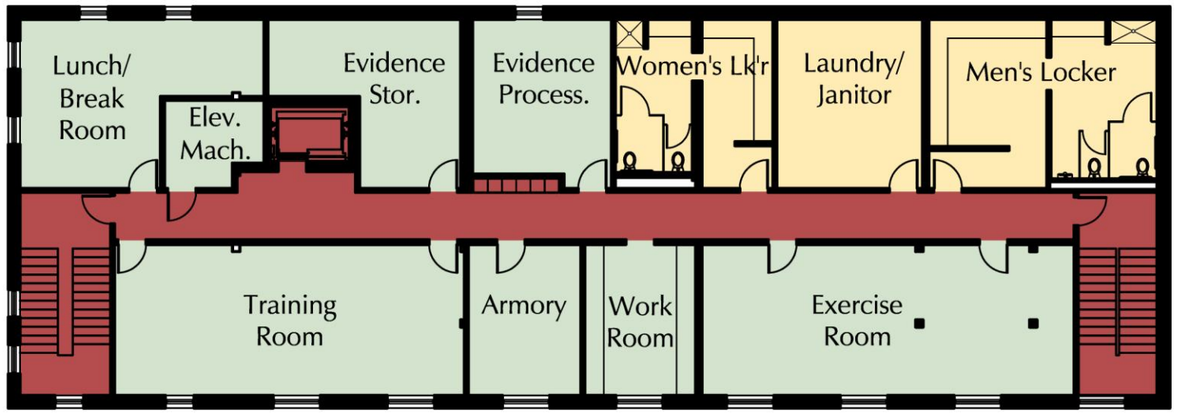
j. Includes land survey, additional geotechnical exploration and recommendations, independent cost estimating, furniture/equipment design/administration fees, and construction testing/monitoring (soils, concrete, steel, roofing, bituminous concrete, etc.).

k. Project contingency is based on 8% of SUB-TOTAL (line item 11).

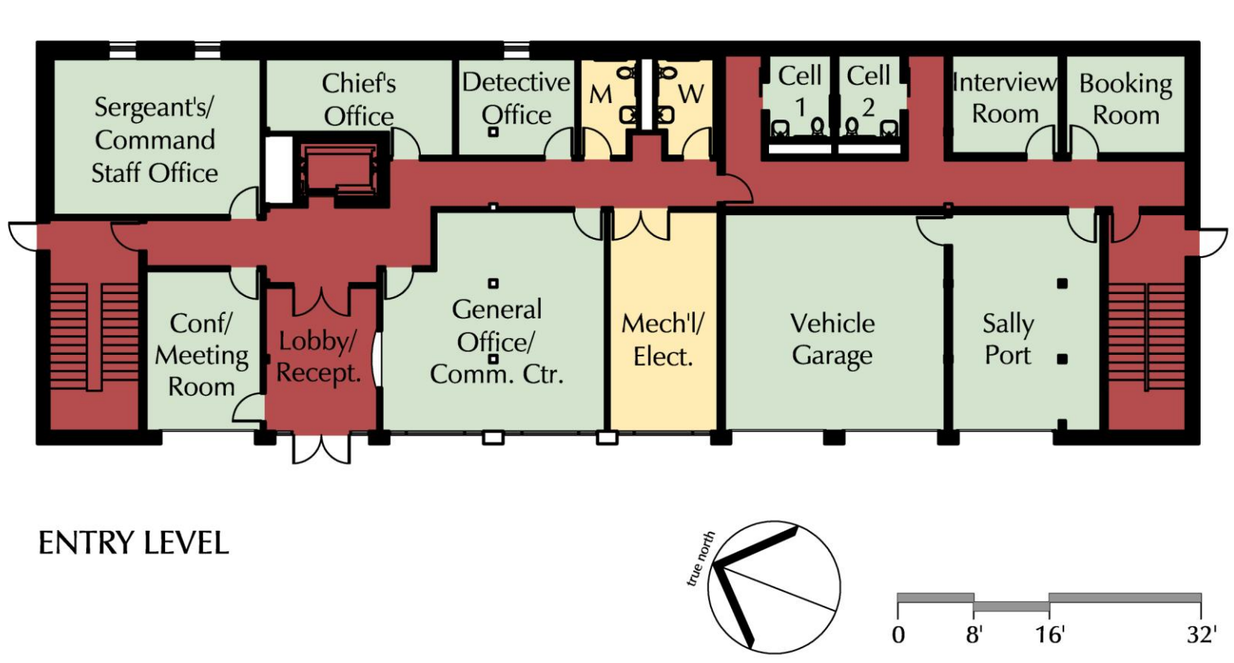
l. Building operation costs (oil/gas, electric, water and sewer utilities) are not included in this cost summary but are estimated to be at least $1.65/SF/Year.



Option 1A- Proposed Worcester Street Site Plan- Police and Fire Stations

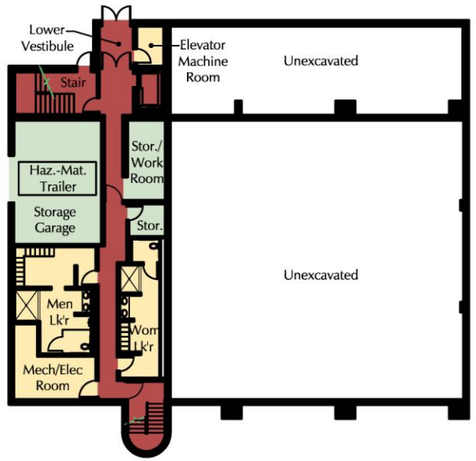


UPPER LEVEL

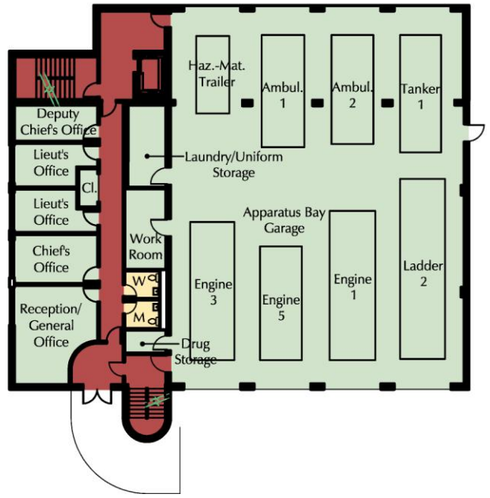


ENTRY LEVEL

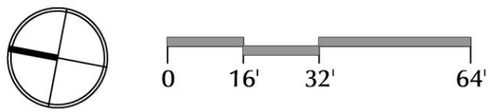
Option 1A- Proposed Floor Plans- Police Station

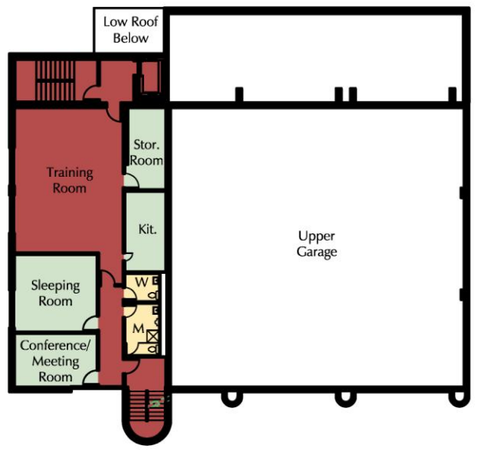


LOWER LEVEL FLOOR PLAN



ENTRY LEVEL FLOOR PLAN





UPPER LEVEL FLOOR PLAN

Option 1A- Proposed Floor Plans- Fire Station

Police and Fire Station

Police Station Main Entry

Aerial View

View From Worcester Street

Option 1A- Proposed Police and Fire Station 3D Views

Fire Station

Rear View of Fire Station

Police Station

Fire Station Nain Entry

Worcester Street

PAUL X. TIVNAN DRIVE SITE (DPW)

SITEWORK:

The Paul X. Tivnan Drive building site is undeveloped. Located near the Worcester County Jail, the site is proposed for private development as a commercial solid waste transfer station and processing facility. The selected developer will be responsible for permitting, engineering and design, construction, operation and continuing maintenance of the facility throughout the term of the ground lease. As part of the proposed agreement, the developer will also be required to extend public water and sewer service to the site (or provide on-site service), and to design and construct a new DPW facility on a portion of the property. In addition, the Town has stipulated that a portion of the site be designated as recreational field space.

LPA was provided with a preliminary site plan dated April 24, 2007, prepared by SITEC Environmental, Inc., that shows the locations of a proposed 45,000 S.F. Processing Building, a 20,000 S.F. DPW Building and future playing fields. This plan also indicates existing/proposed grading and was used, with minor revisions, as the basis for LPA's study of this site.

Site preparation will be extensive; the site is heavily wooded and, per MA GIS mapping, includes areas of wetlands. It is recommended that any wetlands present be delineated and their locations surveyed.

The proposed grading plan, while still preliminary, shows that a considerable amount of earthwork will be required to develop the site. The plan indicates maximum cut and fill of fifty feet and forty feet, respectively. LPA recommends that the parking area for the recreational fields be separate from the DPW building/parking; this will allow the DPW yard to be gated and locked up on evenings and weekends when the fields are most often used. It will also help to reduce the amount of earthwork by allowing the site to be designed and developed as smaller, terraced areas. Geotechnical testing should be done to confirm whether the existing soils are suitable for reuse as fill under pavement and/or buildings.

Because site utilities will be the responsibility of the developer, LPA has assumed that public water, sewer and electrical/communications are available in Paul X. Tivnan Drive. Stormwater drainage system with surface detention and onsite discharge is also assumed.

ARCHITECTURAL/STRUCTURAL:

LPA recommends that the building be classified as Construction Classification Type 2C, Noncombustible Unprotected. Repair Garage facilities fall under Use Group S1-Moderate Hazard Storage. Offices and support spaces fall under Use Group B-Business and, because their area exceeds 10% of the total building area, will not be considered "accessory" to the main Use Group. The building should be classified as Mixed Use. The two Use Groups may either be separated by fire separation assemblies (recommended); or they may be non-separated and comply with the more restrictive Construction Type and Fire Protection System requirements.

A pre-engineered steel girt/purlin building is proposed as a cost-effective solution to providing the large open spaces required. Structural bays can be tailored in size, height, and spacing to the DPW's specific needs. Exterior wall and roof panels are typically galvanized steel with a high-performance paint coating. If desired, the main entry and office areas can be treated with an alternate exterior finish such as masonry. The level of finish and options available with this type of building can vary widely and will affect its initial cost and long-term performance. It is recommended that a roof/wall insulation system be specified that incorporates thermal breaks and an interior vapor barrier. This feature will reduce conductivity and associated interior condensation that will eventually compromise the integrity of the structure. It is also advisable to utilize steel interior wall liner panels, in the garage spaces, to a height of at least 8-10 feet to protect the insulation system.

MECHANICAL:

The building will be fully equipped with an automatic fire suppression system. A gas-fired warm air HVAC system is proposed. Cooling, at the office areas only, is proposed to be a split system with remote pad-mounted condensers. The garage will be equipped with CO exhaust system and compressed air distribution.

ELECTRICAL:

A new underground main electrical service from the street, with a pad-mounted transformer, is proposed. Depending upon its condition, it may be possible to reuse the emergency generator from the existing Police/Fire Station for back-up power. Energy-efficient fluorescent lighting is proposed throughout and program spaces should be equipped with occupancy sensors. Site lighting should be pole and building-mounted, metal halide lamp, cutoff-type fixtures to control light spillage onto adjacent properties. The building should be equipped with a fully addressable fire alarm system, motion and door sensor security system, telephone system and Cat-5E data network system with wireless capabilities.

BUDGET RECOMMENDATIONS:

- For cost budgeting purposes, the following assumptions were made:
- Underground double-wall fiberglass fuel tanks (2500-gallon and diesel 5000-gallon gasoline) with leak detection system and pump dispensers.
- Chain link fence enclosure (full perimeter) with gate.
- Relocated emergency generator from existing Police/Fire station.
- Relocated waste oil tank.
- 50' x 75' fabric covered structure salt shed.
- 3.5-inch bituminous concrete pavement with bituminous berm.
- Existing soils are suitable for reuse as fill.
- 400' x 600' recreational fields.
- Plastic laminate millwork.
- Standing seam metal roofing system.
- Fiberglass batt insulation, vapor barrier and liner panel at all exterior walls.
- Aluminum windows, entry doors and framing.
- Insulated steel sectional overhead garage doors; 12' wide x 14' high.
- Masterkeyed finish hardware system.
- Light gauge steel stud interior wall partition framing with gypsum board and drywall finish; painted.
- Sealed concrete slab at garage areas.
- Durable interior finishes such as vinyl composition tile, vinyl-backed carpet tile and FRP wall panels (at lockers and toilet rooms).
- Acoustical ceiling tile system at office and support spaces.
- Residential appliances at lunch/break rooms.
- Metal lockers at locker rooms.
- Solid plastic toilet and shower compartments.
- Typical furnishings (tables, chairs, desks, file cabinets, etc.) and equipment (copiers, fax machines, computers, etc.) are included in the total project cost recommendation.

DEPARTMENT OF PUBLIC WORKS BUDGET RECOMMENDATIONS

ITEM NO.	DESCRIPTION	ESTIMATED SCHEDULED VALUE	NOTES
1	Site Acquisition	NA	a
2	Combined Site/Building Construction Cost	$4,305,000	b
3	Architectural/Engineering Fees	$344,000	c
4	Project Manager	$60,000	d
5	Clerk of the Works	$90,000	e
6	Printing and Document Publication	$6,000	f
7	Furniture and Equipment	$134,000	g
8	Legal and Bond Costs	$10,000	h
9	Hazardous Materials Abatement	TBD	i
10	Surveys, Borings, Testing and Other Professional Support Services	$75,000	j
11	SUB-TOTAL	$5,024,000	
12	Project Contingency	$402,000	k
13	**TOTAL**	$5,426,000	l

NOTES:

a. The Town presently owns the site; this cost summary assumes that additional land taking is not required.

b. Combined Site/Building Construction Cost is based on 19,135 SF new construction pre-engineered steel building space at $225/SF. Site development, accessory structures (i.e. salt shed) and recreational fields/parking (400' x 600' playing fields and 75+ parking spaces) are included. Site/building costs associated with the proposed transfer facility are not included. Costs are based on middle-to-high range 2009 prevailing wage construction and assume an inflation factor of 4%/year.

c. Architectural/Engineering fees are based on 8% of Combined Site/Building Construction Cost.

d. Project Manager estimate is based on one part-time position for 12 months at $5,000/month.

e. Clerk of the Works estimate is based on one full-time position for 12 months at $7,500/month.

f. Assumes 150 sets of printed bid documents (drawings and specifications) at $40/each plus miscellaneous printing costs.

g. Furniture and equipment costs are based on $7/SF and include furniture (desks, chairs, tables, etc.), office equipment (copiers, etc.), technology (computers, printers, hubs, projectors, etc.), telephone system (PBX and handsets), appliances, mechanic garage lifts, custodial/maintenance equipment and similar equipment.

h. Legal costs are estimated based on previous projects and will vary.

i. Hazardous materials abatement (if required) is not included; cost recommendations to be determined upon completion of testing program.

j. Includes land survey, additional geotechnical exploration and recommendations, independent cost estimating, furniture/equipment design/administration fees, and construction testing/monitoring (soils, concrete, steel, roofing, bituminous concrete, etc.).

k. Project contingency is based on 8% of SUB-TOTAL (line item 11).

l. Building operation costs (oil/gas, electric, water and sewer utilities) are not included in this cost summary but are estimated to be at least $1.65/SF/Year.

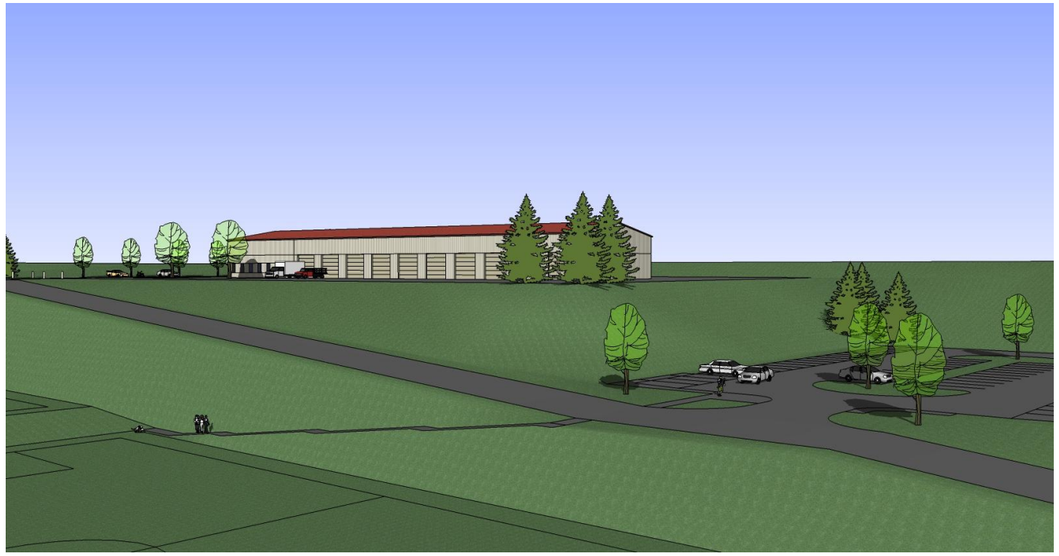
Option 1A- Proposed Paul X. Tivnan Drive Site Plan- Department of Public Works

DPW Main Entry

DPW and Salt Shed

Option 1A- Proposed DPW Facility 3D Views

View From Entry Drive



Aerial View With Recreational Fields and Parking

View From Proposed Transfer Station Entry Drive

Option 1A- Proposed DPW Facility 3D Views

PART 6 – APPENDICES

A. Seaman Engineering Corporation (SEC) Mechanical Systems Survey Report
B. Shepherd Engineering, Inc. (SEI) Electrical Systems Report
C. RE Cameron & Associates, Inc. Report
D. Hancock Associates, Inc. Wetlands Delineation Report

SEAMAN ENGINEERING CORPORATION
30 Faith Ave. Auburn, MA 01501 508-832-3535 fx 508-832-3393

July 23, 2007

Mr. Eric Moore
Lamoureux • Pagano Assoc., Arch.
14 East Worcester Street
Worcester, MA 01604

Re: Mechanical Systems Survey at Municipal Buildings in West Boylston, MA

Dear Mr. Moore:

The following is a summary report outlining our observations and comments regarding the status of the HVAC, plumbing and fire suppression systems at the three (3) municipal buildings in West Boylston, MA. The three buildings reviewed were 1) the Mixter building which is a converted school currently used to support town administration offices as well as the senior center, 2) the DPW building which is used to support public works offices, storage and service needs and 3) the police and fire head quarters building which is used to support their respective activities.

SITE INSPECTION

On May 9, 2007 we performed site inspections of the existing buildings with yourself and Mr. John Shepherd of Shepherd Engineering – electrical engineer. Our assessment of existing mechanical systems was limited to visual observations as facility personnel where not available to inquiry as to current operational status.

MIXTER BUILDING

FIRE PROTECTION

Existing Conditions and Deficiencies:

There is no fire protection sprinkler system installed in the building. Current codes would require a fire suppression system to be installed throughout the building in accordance to NFPA 13.

PLUMBING

Fixtures:

The existing buildings plumbing systems appear marginally adequate in quantity for the current occupancy use. Total fixture counts have actually been reduced to support required ADA retrofit of existing bathrooms to comply with ADA or MA accessibility codes. Although accessible fixtures have been provided in converted boys and girls bathrooms for use as mens and woamns rooms, there are two (2) existing men's and women's which, although there doors indicate

handicap accessibility they fail compliance in that the water closet fixture is not of the proper height and the lavatory sinks do not have offset drains or required under sink protective insulation.

Existing water closets are a mix of both wall and floor mount flush valve type most of which were of the water conserving 1.6 gallon per flush type. The lavatory sinks were primarily wall hung style, but did not meet accessibility requirements. Urinals were of the wall hung type with at least one in the converted men's room being mounted at ADA height.

Although the kitchen area is not longer used, if it were to become a commercial kitchen several upgrades would be required. The kitchen currently has a 2 bowl sink and a single bowl sink however typically a hand wash sink and 3-bowl pot/scullery type sink would be required as a minimum to meet current Board of Health requirements. In addition, proper indirect wasting of prep. sinks and the installation of grease traps would be required.

It appears the fixtures are a mix of original and newer vintage. Apparently maintenance is routinely performed on faucets, toilet fill valves, etc.. as needed.

Cold Water Service:

Domestic water service for the building enters the boiler room. The main service is 6" which reduces in size to a 2" compound water meter, a pressure reducing valve and back to a 2-1/2" line to feed the building fixtures.

There is no backflow preventer installed on the incoming water service. Local regulations govern whether a backflow preventer would be required however, in many facilities such as this where there are numerous potential sources of cross contamination, a backflow preventer is required to protect the municipal water supply. Local requirements should be confirmed with the water department and plumbing inspector.

Due to the age of the building constructed in circa 1957 and the some of the associated water piping there is a high probability that the water service could have lead containing solder in the fittings or in old brass piping. Although not a large source of lead contamination it should be tested and monitored and if found to be a problem the piping should be replaced. In general, there were no outward signs of failure during the day of our site inspection.

Domestic Hot Water Service:

The domestic hot water needs of the building are primarily supported by a cast iron sectional steam boiler with four (4) tankless coils. These coils have piping and valving in place to either deliver hot water directly to the system or circulate water to a 500-gallon Patterson Kelley indirect steam fired water storage tank. The condition of the tank is unknown, however based on its age alone it should be considered a serious candidate for replacement.

A single mixing valve station is provided to temper the hot water for general building use. However, this does not appear to be adequate to provide the multiple temperature water supplies required by the fixtures in this building. To comply with code, water temperature to general building fixtures such as kitchen sinks, janitors sinks, etc… should be at 125°F for sanitation reasons but at lavatory sinks the water temperature should not exceed 110°F for safety reasons. I addition, storage tank water should be kept at approximately 140°F to prevent growth of bacteria in the water.

It was unclear if adequate water loop temperature maintenance (i.e. recirculation pump and piping) has been provided as there are fixtures located beyond 100 feet of the hot water source. The plumbing code requires hot water to be available within 100 feet of any hot water consuming fixture.

Drainage Systems:

The roof is drained via an internal roof leader system for the flat roof areas and an exterior gutter system for the pitched roof areas. It is presumed that the system connects to underground storm drainage piping leading to a municipal storm water system.

Most of the sanitary drainage piping is concealed from view, however what we were able to see was primarily of the cast iron hub & spigot type. The sanitary sewer lines run below the slab and exit the building presumable to a municipal sewer system.

We noticed a sump pump pit in the boiler room with an open cover. The sump pump appear to connect to the sanitary sewer system. It was unclear as to what the ejection pump serves howeve there is some probability that it also connects to floor drains in the boiler room or receives waste from the boiler room. Regardless, this installation may not be compliant with current codes since if is receiving waste from floor drains it should be a sealed sewage ejection pit and if it is drainin ground water it should be pumped to the storm water system and the top sealed.

We noticed no outward signs of failure in either the sanitary sewer system or the storm drainage system during our site inspection.

Natural Gas Service:

The main gas service for the facility enters the building boiler room. The service exits at grade as a 2" intermediate pressure line runs through a pressure reducing valve, a gas meter and another pressure reducing valve prior to entering the building as a 3" low pressure gas line. The gas service supports the buildings heating boiler as well as appears to have supported some kitchen cooking loads that have since be removed.

<u>HVAC</u>

Boilers:

The buildings heating requirements and domestic hot water requirements are currently supported by one (1) oil fired boiler located in the boiler room. In a depressed area of the same boiler room there is an original H.B. Smith cast iron steam boiler that has been abandoned in place.

The operational boiler is a low pressure steam boiler with a maximum burner rated input capacity of approximately 3,500,000 BTUH. The boiler is in relatively good condition and has a Cyclonetic gas-fired burner. The boiler drafts into a masonry chimney. The internal condition of the chimney is unknown.

The operational boiler does not appear to have exceeded its useful expected service life of 30-years as defined in the American Society of Heating Refrigeration and Air Conditioning Engineers (ASHRAE) Applications Handbook. As such, any substantial renovations could consider reuse of this boiler and its possible conversion to hot water. During a major renovation project or if conversion to hot water was elected we would highly recommend that the boiler be replaced with newer high efficiency water boilers.

Combustion air for the boiler room is supplied from ductwork connecting to a window louver. The ductwork is both high and low in accordance with the fuel gas code and there are motorized dampers on the ducts of which we presume are connected to the firing circuits of the respective fuel burning units.

Boiler controls appear fairly simple being manually enabled to operate. Integral controls control boiler system steam pressure.

Piping Distribution:

Heating from the boiler plant is distributed via a two-pipe steam distribution system serving steam convectors, fin-tube radiation and unit ventilators located throughout the building. Many of the original Nesbitt classroom unit ventilators have been removed and replaced with fin-tube radiation. The radiation actually crosses existing exterior doors in many of the rooms thereby blocking there access and use. Some of the older circa 1957 Nesbitt unit ventilators remain in the old cafeteria and general purpose room areas. These units did appear to be operational during our inspection.

In at least two (2) rooms the Nesbitt unit ventilators were replaced with Trane unit ventilators of an estimated age of 10-years.

The remaining Nesbitt units at 50-years in age have well exceeded their useful expected service life. Any renovation must consider replacement of these units.

Although the school at one time had a fairly complex pneumatic control system for individual room temperature and ventilation control most of this has since been replaced with the fin-tube

radiation system controlled off of electric zone valves. Each valve supports radiation in several rooms with a Honeywell #T87 series electric thermostat in one the rooms.

Review of several of the steam traps found some signs of trap maintenance service or refurbishin Proper trap malignance in a steam system is important in that lack of trap maintenance especially on main line steam drips contribute to wasted energy due to blow-by of active steam into the condensate system.

Although much of the steam piping distribution system has been replaced steam systems general age and typical non-uniform heat distribution make the system and remaining unit ventilators prime candidates for replacement. The system, as configured, is inefficient and should be replaced during a significant HVAC renovation project

Ventilation & Misc. HVAC:

Originally classroom unit ventilators were located throughout the building providing significant ventilation. However, most of these were removed in the past and replaced with perimeter fin-tube radiation as noted earlier. The primary problem with this conversion is the removal of positive fresh air ventilation. Although it appears several of the rooms have exhaust ventilation provided for via roof mounted ducted centrifugal exhaust fans this form of positive ventilation is not recommended as it forces infiltration of unfiltered make-up air thru windows and doors resulting in draft complaints and a negatively pressurized building.

Even though the room occupancy loads are, for the most part, considerable less than classroom space, some positive outdoor air ventilation should still be provided. Technically, operable windows in many areas would satisfy the natural ventilation requirements of the Commonwealth of Massachusetts State Building Code. However, although this may be adequate for lightly populated spaces, for a building such as this, where occupancy can swing greatly, proper indoor air quality and code compliance can only be achieved through positive outdoor air ventilation. Natural ventilation relies on occupants to control their air quality levels manually by opening and closing windows. Since CO2 is odorless and colorless as many other indoor air pollutants are, it unrealistic to expect occupants to gauge the contamination level of the indoor air and open a window in the cold of winter.

In areas with unit ventilators it appears there intent is to bring air in through wall louvers or roof intake hoods. However, the operational condition of many of these units including whether the dampers controls work is unknown. As mentioned earlier, with the Nesbitt units being 50-years i age and the Trane units 10+ years in age they have either exceeded or will exceed their useful expected service life as defined by ASHRAE. Any renovation must seriously consider replacement of these units.

All bathrooms appear to have ducted exhaust systems although it was unknown if they are operational. The systems will need to be replaced during a renovation to support new ventilation requirements for areas such as these.

The kitchen hood over the range and oven equipment does not comply with current NFPA 96 standards. The kitchen hood exhaust system fails compliance of several levels some of which are as follows:

1. The hood does not have code complaint grease extraction filters which may or maynot be required depending on the cooking equipment to be located under the hood.
2. The ductwork for this hood is not welded and is not protected from combustibles as required by NFPA.
3. The hood does not have a chemical fire suppression which may or maynot be required depending on the cooking equipment to be located under the hood.
4. The kitchen hood fan must be UL 762 complaint and be of a type and configuration to discharge air a minimum of 40" above the roof line. Although we were unable to access the fan during our site inspection, we would anticipate that it also does not comply with these requirements based on the general inadequacies in the current installation.

Heat and make-up air for the kitchen exhaust systems appear to be provided for by a single horizontal unit ventilator. The operational condition of this unit ventilator is unknown however its age alone makes it a prime candidate for replacement.

HVAC controls in the building range in complexity. Originally the control system appeared to be fairly comprehensive with pneumatic thermostats and operators. However, many of the pneumatic controls have been abandoned. In rooms where old unit ventilators remain people manually switched the fans on and off to retain heat control. In areas with fin-tube radiation, electric zone valves are controlled by wall mounted thermostats which control the temperature in groups of rooms. This system should be substantially modified in order to comply with new energy codes and ventilation standards and to optimize energy operating costs.

DPW BUILDING

FIRE PROTECTION

The existing building is protected by a water based sprinkler system. A 6" water service enters at the front corner of the building in an entry stair area. The service runs thru a double check backflow preventer, chain locked OS&Y valves and an alarm valve prior to serving the buildings sprinklers. Main drain flow test card on the service indicates a static pressure of 75 psi and a residual pressure of 60 psi.

In general the building appears to have a complete complaint sprinkler system with the following exceptions:

1. Chain locked valves should be electrically supervised by the buildings fire alarm system
2. There is no sprinkler coverage under garage doors when they are in there open position.
3. The small shed building attached to the rear of the DPW building was inaccessible and s such proper coverage of this area is unknown.
4. Due to their inaccessibility, it is unclear if all combustible concealed spaces in the building have been properly protected with sprinklers. However, for the most part it appears that the coverage is fairly comprehensive.

PLUMBING

Fixtures and ADA Compliance:

The existing building's plumbing systems appear to be limited in both quantity and configuration to support the current occupancy uses. There is one restroom on the top floor with a water closet and lavatory sink and one restroom on the lower floor with a water closet, urinal and stainless steel counter mounted sink.

All existing fixtures are not of the water conserving type and do not comply with ADA accessibility requirements. Water closets are of the tank style floor outlet type. The urinal has a push-button flush valve which delivers very little water for adequate flushing unless it is depressed for a period of time.

There is also a small non ADA complaint Oasis electric water cooler on the lowest level. Due to the age of this unit its water vessel may have lead containing components. If used infrequently, lead levels could be higher than normal in the water. We recommend the water be tested on a firs draw in the AM and if found to be a problem the cooler be replaced.

Any renovation would need to bring the quantity and type of fixtures up to current code requirements for the intended use group.

Cold Water Service:

A 1" cold water line enters the building in a mechanical room located in a partial basement. The service runs through a water meter prior to feeding the buildings domestic cold water loads. There was no pressure reducing valve station on the service which would be required if incoming street pressure exceeds 80 psi.

There is no backflow preventer installed on the incoming water service. In facilities such as this where there are numerous potential sources of cross contamination, a backflow preventer is typically required to protect the municipal water supply. Local requirements should be confirmed with the water department and plumbing inspector.

Due to the age of the building there is a high probability that the water service could have lead containing solder in the fittings or in old brass piping. Although not a large source of lead contamination it should be tested and monitored and if found to be a problem the piping should be replaced. In general, there were no outward signs of failure during the day of our site inspection.

Drainage Systems:

Most of the sanitary drainage piping is concealed from view, however what we were able to see was primarily of the cast iron hub & spigot and no-hub type. The sanitary sewer lines run below the slab and exit the building presumable to a municipal sewer system.

The garage floor drains should connect to an MDC gas/sand trap prior to tying into the municipal sewer system. We did not notice evident signs of such a trap on the site. This must be provided for the garage drains to comply with code.

We noticed no outward signs of failure in either the sanitary sewer system or the storm drainage system during our site inspection.

Natural Gas Service:

A natural gas service enters the end of the building and feeds a gas-fired heating boiler and multiple gas-fired unit heaters.

HVAC

Heating, Ventilation & Misc. HVAC:

The building has a relatively new gas-fired hot water boiler located in a mechanical room in a partial basement area. The boiler is a Weil-McLain model #PFG-5 with a rated input capacity of 260,000 BTUH. The boiler is dedicated to serving only the upper level of the building. Two (2) Taco in-line circulation pumps provide two (2) zones of heat control to the upper level.

The boiler is vented to a masonry chimney of which the condition is unknown. There is no combustion air for the boiler. Code requires both a low and high combustion air supply be provided to insure proper operation of the boiler. To aggravate matters, a air compressor is also located in the boiler room and draws its air form the room as well. This condition should be remedied.

The upper level has residential/light commercial style fin-tube radiation. Each of the two (2) long exposures are the floor are zoned to the respectively boiler pump. Programmable thermostats on the floor call for the boiler to operate and the respective pump based on a call for heating.

The garage space has old steam piping and several radiators which have been abandoned in place Heating for the garage is supported via several gas-fired unit heaters. Two (2) have draft inducer and are sidewall vented, one (1) is vented to a masonry chimney which also supports the hot wate boiler.

The building has very little ventilation with the exception of operable windows and doors and a propeller style exhuast fan in one of the service garage areas. Current code would require that exhaust be provided in each bathroom as well as in the service garage where provision should be made to provide up to 1.5 CFM per SF of air ventilation. Typically we address this with an activ CO, NO and fuel gas monitoring system interlocked to the require ventilation system. A local vehicle exhaust system should also be provided to facilitate vehicle operation during service.

The American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) Ventilation Standard 62-1989, requires outdoor air levels of 15 to 20 cfm per person dependant o occupancy classification. Technically, operable windows in the upper level would satisfy the natural ventilation requirements of the Commonwealth of Massachusetts State Building Code. However, natural ventilation relies on occupants to control their air quality levels manually by opening and closing windows. Since CO2 is odorless and colorless as many other indoor air pollutants are, it is unrealistic to expect occupants to gauge the contamination level of the indoor air and open a window in the cold of winter.

FIRE/POLICE BUILDING

FIRE PROTECTION

The existing building has no sprinkler protection. During a major renovation sprinkler protection may be mandated for this building if the Town has adopted MGL Chapter 148 Section 26G which requires sprinkler protection for buildings greater than 7,500 SF. Otherwise sprinkler protection for this building would be optional.

PLUMBING

Fixtures and ADA Compliance:

The existing building's plumbing fixture groups consist of men's and woman's restrooms on both the first floor and the second floor. The restrooms on the first floor each have a single wall hung flush valve toilet and a wall hung lavatory sink. The second floor women's room has a single wall hung flush valve toilet and a wall hung lavatory sink and the men's room has a single wall hung flush valve toilet, wall hung flush valve urinal, wall hung lavatory sink and one shower stall with Symmons Hyda-pipe stainless steel fixture with pressure balanced single handle control.

All existing fixtures are not of the water conserving type and do not comply with ADA and Massachusetts accessibility requirements. The water closet and urinal elevation would need to be adjusted to comply with ADA heights. The lavatory sinks and faucets would need to be replaced with compliant types. The shower stall, if made to be complaint would need to be enlarged and fitted with new hose spray and controls. We also noted a janitor's sink and a clothes washer located in the basement level of the building.

Any major renovation or change of use of the building would require a review of fixture quantity and types of fixtures to bring them up to current code compliance for the intended use group.

Cold Water Service:

We were unable to locate the water meter during our inspection although it does appear to enter the basement from the street side. We noted no pressure reducing valve station on the service which would be required if incoming street pressure exceeds 80 psi.

There is no backflow preventer installed on the incoming water service. In facilities such as this where there are numerous potential sources of cross contamination, a backflow preventer is typically required to protect the municipal water supply. Local requirements should be confirmed with the water department and plumbing inspector.

Drainage Systems:

Most of the sanitary drainage piping is concealed from view, however what we were able to see was primarily of the cast iron no-hub type. The sanitary sewer lines run below the slab and exit the building presumable to a municipal sewer system.

The garage floor drains on both the basement and 1st floor levels should connect to an MDC gas/sand trap prior to tying into the municipal sewer system. We did notice an interior manhole cover in the basement police garage which may be the required MDC trap however, this would need to be opened and inspected to verify current compliance. A pump out service record for this trap should be made available for review.

We noticed no outward signs of failure in either the sanitary sewer system or the storm drainage system during our site inspection.

Natural Gas Service:

A natural gas service enters the basement level of the building and supports the buildings gas-fire furnaces and unit heaters. The underground service is a ¾" intermediate pressure line which runs through a pressure reducing valve and then a Singer #AL-425 (425,000 BTUH nominal rated meter) prior to entering the building.

HVAC

In 1998 our firm (formerly Johnson & Seaman Engineering, Inc.) performed a detailed review of the HVAC systems and air quality within the building which included air quality testing as well a recommendations and cost estimates for improvements. Since the date of this report some improvements and equipment replacements have occurred however little, if any, improvements tc the office spaces and the police garage have occurred. The following integrates our new observations with the report from 1998 as applicable and as noted.

When originally built, the entire building was heated and cooled via a combination of electric cooling/heating units and electric resistance heat. During the early 1990's the primary source of heating for the building was converted from electric based equipment to natural gas based heating equipment. Unless otherwise noted, the equipment appeared to be in good condition. The main equipment groupings, configuration and our associated comments are as follows:

2ND FLOOR OFFICE AREAS:

- (1) Goodman condensing type furnace, with 5-ton capacity DX cooling coil with remote York condensing unit located on a pad at the rear of the building supports the heating and cooling requirements for the 2nd floor office areas (dispatch & fire department). There is one heating/cooling thermostat located in the hallway to the meeting room, which controls the systems operation.

Galvanized steel supply ductwork distributes air to all areas with the exception of the chief's office. There is only one central return air grille located in the meeting room which may pose problems for proper air circulation if the meeting room door is closed thereby preventing proper air return for many of the other areas.

There is no fresh air ventilation provided for this unit. In addition, the PVC combustion air inlet and flue pipes exit the building through the rear egress stair tower which is a code violation. These pipes should be boxed in with rated construction to separate them from the egress stair.

- There is a roof exhaust fan with rated air capacity of 1760 CFM (based on existing drawings) which connects to a low wall grille in the meeting room. Control is manual within the meeting room. The exhaust fan appears to be creating IAQ problems within the room by introducing a large negative pressure which in turn pulls air in from the adjoining fire garage space and lower police garage via the stair towers.

- There is a roof exhaust fan with a rated air capacity of 300 CFM (based on existing drawings) which ducts down to service the restrooms in the building. Based on currnet ventilation requirements the fan is somewhat undersized to support the current bathroom fixture count. Current code would require close to 400 CFM of exhaust.

1ST FLOOR OFFICE AREAS:

- (1) Goodman condensing type furnace, with 5-ton capacity DX cooling coil with remote York condensing unit located on a pad at the rear of the building supports the heating and cooling requirements for the 1st floor office (police department) areas. There is one heating/cooling thermostat centrally located, which controls the systems operation.

  Galvanized steel supply ductwork distributes air to all areas. There is one central return air grille located in the corridor area. This may pose problems in that some areas off the corridor have doors, which can isolate them from the corridor thereby preventing proper air return.

  There is no fresh air ventilation provided for this unit. In addition, the PVC combustion air inlet and flue pipes exit the building through the rear egress stair tower which is a code violation. These pipes should be boxed in with rated construction to separate them from the egress stair.

POLICE VEHICLE GARAGE:

- Heating for the police garage is accomplished through the use of (2) gas-fired unit heaters, one located in the main police garage area and the other located in the storage garage area. Unit heaters are of the sidewall vented type. Electric unit heaters also exist in the garage area.

- There is one sidewall propeller exhaust fan located in the police garage area, which is manually controlled.

FIRE APPARATUS GARAGE:

- Heating for the fire apparatus garage is accomplished through the use of (2) gas-fired unit heaters. Unit heaters are gravity vent type which discharge thru the sidewall to a vertical vent stack which projects above the roof line. There are also six (6) electric unit heaters i the garage area.

- The garage has a complete local vehicle exhaust system as manufactured by PlymoVent. This system consists of pneumatic bellow exhaust ports and rails which automatically activate the exhaust if a vehicle is started and then automatically releases from the tailpipe as the vehicle leaves the apparatus bay.

- We noted no active fresh air make-up or ventilation systems for the garage.

AIR QUALITY MONITORING (results from 1998 testing):

Although the below tests were taken in 1998, with the exception of the fire apparatus garage, no substantive ventilation improvements were made since this time and as such we would expect similar current day results. The below is presented for informational purposes.

For a period of 14 days from February 17, 1998 to March 3, 1998, we conducted an environmenta indoor air quality monitoring survey. This survey monitored six different areas for a minimum time period of at least 48 hours. The six areas monitored were:

1. Fire/Police Dispatch
2. Police Booking
3. Squad Room
4. Police Vehicle Garage
5. Fire Apparatus Garage
6. Meeting Room

Variables trended were temperature, relative humidity, carbon monoxide and carbon dioxide levels. The data logged during this time period can be found in Appendix C.

From this survey we were able to identify five of the six areas defined above which experienced carbon dioxide level variations of greater than 50% with only the fire garage excluded. In addition, all the areas except for the fire garage exceeded the maximum recommended carbon dioxide limit of 1000 PPM, as established in ASHRAE Ventilation Standard 62-1989, on several occasions. Wide fluctuations in carbon dioxide levels are a good indicator of deficient outdoor ai ventilation levels.

The following indicates times and duration's when the CO2 level exceeded 1000 PPM:

Area	Monitoring Period	Event Time	Minimum Event Duration	Peak CO2 @ Event
Fire/Police Dispatch	2/17 10:00AM to 2/19 8:46AM	2/17 3:31PM	45 minutes	1047 PPM
		2/18 2:31PM	3 hours, 30 minutes	1136 PPM
		2/18 10:01PM	15 minutes	1041 PPM
Police Booking	2/19 9:01AM to 2/21 11:01AM	2/19 9:01AM	30 minutes	1052 PPM
		2/19 3:16PM	45 minutes	1073 PPM
		2/19 8:31PM	30 minutes	1094 PPM
		2/19 11:01PM	1 hour, 45 minutes	1154 PPM
		2/20 8:31AM	45 minutes	1038 PPM
Squad Room	2/21 11:16AM to 2/23 8:46AM	2/21 2:46PM	1 hour, 30 minutes	1187 PPM
		2/21 4:46PM	1 hour, 45 minutes	1311 PPM
		2/21 8:46PM	15 minutes	1080 PPM
		2/21 9:46PM	4 hours, 15 minutes	1269 PPM
		2/22 7:16PM	45 minutes	1126 PPM
		2/22 8:31PM	15 minutes	1008 PPM
		2/22 11:01PM	45 minutes	1199 PPM
		2/23 7:01AM	30 minutes	1091 PPM
		2/23 11:01PM	15 minutes	1003 PPM
Police Garage	2/23 9:01AM to 2/23 1:16PM	2/23 9:16AM	45 minutes	1090 PPM
		2/23 10:16AM	15 minutes	1056 PPM
		2/23 11:10AM	1 hour, 30 minutes	1094 PPM
		2/23 8:16PM	15 minutes	1008 PPM
		2/23 9:01PM	15 minutes	1022 PPM
		2/23 9:31PM	15 minutes	1041 PPM
		2/23 10:16PM	15 minutes	1040 PPM
		2/24 7:16AM	15 minutes	1030 PPM
		2/25 6:46AM	6 hours, 30 minutes	1715 PPM
Fire Garage	2/25 1:31PM to 2/27 3:31PM	No CO2 levels at or over 1000 PPM.		
Meeting Room	2/27 3:46PM to 3/3 1:16PM	2/28 9:01AM	3 hours, 45 minutes	2664 PPM
		3/3 9:16AM	4 hours	1378 PPM
		*2/28 11:17AM	Instantaneous Peak	5956 PPM*

ASBESTOS MONITORING (results from 1998 testing):

Although the below tests were taken in 1998, with the exception of the fire apparatus garage, no substantive ventilation improvements were made since this time and as such we would expect similar current day results. In addition, we are unaware of any asbestos abatement related activities. The below is presented for informational purposes.

On April 3, 1998, Diversified Environmental Corp. (DEC) conducted an asbestos air and surface sampling survey. Their reports along with test results may be found in Appendix D. The survey monitored twenty (20) different areas for the presence of asbestos fibers in the air as well as on surfaces. According to DEC, the results shown that air concentrations are less than .01 fibers per cubic centimeter which is a level set by the EPA and Massachusetts Department of Labor and Industries Standard for clean air following an abatement project. These departments have yet to establish an acceptable level for background air, therefore continued monitoring is recommended Additional tests would need to be done to ascertain if the fibers that were collected were in fact asbestos fibers or some other environmental fiber.

According to DEC, of the 20 micro-vac wipe samples taken, no asbestos was detected. However, due to the condition of the material and the significant potential for damage, DEC recommends a Operations and Maintenance program be instituted to remove asbestos containing materials in highly accessible and damaged areas and establish a program to monitor material left in place.

The twenty areas sampled and the respective results are as follows:

	Test Location	All Fibers Air Concentration (f/cc)	Wipe Sampling Asbestos Detected
1.	Police - Reception area	.007	NO
2.	Police - Office #2	.008	NO
3.	Police - Shift Commander	.007	NO
4.	Police - General Office	.007	NO
5.	Fire – Rear Stairs	.008	NO
6.	Fire – General Office	.007	NO
7.	Fire – Kitchen area	.007	NO
8.	Fire – Hallway	.008	NO
9.	Fire – Men's Room	.007	NO
10.	Fire – Women's Room	.007	NO
11.	Fire – Chief's Office	.008	NO
12.	Fire – Meeting Room	.009	NO
13.	Fire – Dispatch Area	.006	NO
14.	Fire – Front Stair	.006	NO
15.	Fire – Main Garage, Left	.007	NO
16.	Fire – Main Garage, Right	.008	NO
17.	Police – Garage, Front	.007	NO
18.	Police – Garage, Rear	.007	NO
19.	Police – Entrance Reception	.006	NO
20.	Police – Entrance Stairs	.006	NO

HVAC VENTILATION SUMMATION:

Current outside air ventilation requirements based on ASHRAE Ventilation Standard 62-1989 require outdoor air levels of 20 cfm per person for office type occupancy. Although in certain areas the quantity of operable windows in this building meets the natural ventilation requirements of the Commonwealth of Massachusetts State Building Code, we feel that proper indoor air quality can only be achieved through positive outdoor air ventilation. Natural ventilation relies on occupants to control their air quality levels manually by opening and closing windows. Since CO_2 is odorless and colorless as many other indoor air pollutants are, we feel it is unrealistic to expect occupants to gauge the contamination level of the indoor air and open a window in the heat of summer or cold of winter. Therefore, we highly recommend during any renovation project that fresh outdoor air ventilation be added to the systems. Below are a few recommendations for ventilation improvements only:

Police Vehicle Garage:
Provide a carbon monoxide (CO) monitoring system interlocked to the operation of the existing exhaust fan as well as a new fresh air make-up supply fan, louver and associated ductwork.

Offices & Administrative Areas:
Provide powered fresh air supply ventilation ducted to the return inlet of the existing split type furnaces systems. Also install new programmable thermostats with remote averaging sensors for each system for improved temperature control.

Meeting Room:
Replace existing exhaust fan with new energy recovery type ventilation unit. Unit shall be located on the roof with the old exhaust fan curb being utilized for new supply and exhaust duct drops. Duct shall be separated from stairwell with a 2-hour enclosure and have fire dampers at all penetrations.

If you have any questions regarding this report please do not hesitate to call.

Sincerely Yours,
Seaman Engineering Corporation

Kevin R. Seaman P.E.
President

SHEPHERD ENGINEERING, INC.

1308 Grafton Street, Worcester, MA 01604 Phone 508.757.7793 Fax 508.753.2309

May 18, 2007

Mr. Eric Moore
Lamoureux Pagano Associates Architects
114 East Worcester Street
Worcester, MA 01604

Re: Electrical Site Survey Report
Mixter Building
120 Prescott Street
West Boylston, MA

Dear Eric:

On May 9, 2007, a site visit was made to the above referenced building to review the electrical systems currently installed throughout the property. The facility originally used as a school consists of a single story structure built in 1960. The following observations were made:

Lighting
Site

The exterior site lighting consists of wall mounted incandescent flood lights used to illuminate the immediate area. Several exterior flood light fixtures are installed on utility poles which illuminate the parking area.

In many cases, the exterior lighting has been vandalized, inoperable or showing signs of deterioration

Corridors, Front Vestibule and Lobby

Lighting throughout the floor, consists of surface mounted incandescent fixtures. The fixtures are original to the building and are showing signs of deterioration.

Offices

The lighting consists of a series of surface mounted two lamp non-energy efficient fluorescent fixtures and surface mounted incandescent fixtures. The fixtures appear to be original to the building and are showing signs of deterioration. The fixtures allow for adequate light but should be replaced with a fixture with glare control. The fixtures make it difficult to review material on the computer monitors.

Public Toilets

The lighting consists of two incandescent, surface mounted fixtures that are original to the building. The level of light is poor and should be upgraded. Te fixtures are also showing signs of deterioration.

CONCLUSION

- *Replace the fixtures within the main vestibule, corridor and office areas with high efficient lighting with fluorescent lamps.*
- *Replace the fixtures in the toilets with energy efficient lamps. Increase the light level.*
- *Install occupancy sensors within the office spaces. In spaces that were not occupied during the building review, the light fixtures were illuminated. If a means of automatically controlling the fixtures were to be installed, the building would realize a considerable savings in electrical demand usage.*

EMERGENCY LIGHTING AND EXIT SIGNS

It appears that the exit signs and emergency lighting has been recently upgraded within the last several years. Self contained emergency battery units have been installed to adequately illuminate the means of egress within the common areas, corridors and toilets.

Self contained exit signs with six volt battery back-up have been installed throughout to indicate a safe passage to the means egress. Further information is required to determine whether or not the life safety equipment has been connected onto the line side of the circuit for which it is intended to protect.

CONCLUSION

- *Install exterior emergency lights to properly illuminate the egress path from the building as stated in Chapter 10 of the 780CMR 6th Edition Massachusetts State Building Code. The exit signs located above each of the egress doors may have to be replaced with a unit that has a higher battery capacity to provide power for the exterior emergency light.*

MISCELLANEOUS POWER

Corridors, Front Vestibule and Lobby

One duplex receptacle is installed in the center of each corridor between the intermediate corridor doors. The receptacles appear to be original to the building are grounded but are showing signs of deterioration

Offices

There are minimal receptacles installed throughout the office areas. In several cases, there were only two receptacles per room. Wiremold extension boxes have been installed to exposed metal raceway to allow for additional receptacles to be installed throughout the office areas. It appears that the existing circuit was used without taking into consideration what may already be operating on the branch circuit. The existing receptacles are showing signs of deterioration.

Kitchen

The work spaces have several receptacles which are not ground fault protected. The receptacles are sparse and should be increased as well as being on dedicated branch circuits.

Several service switches are installed adjacent to kitchen equipment. In most cases, the equipment is not weather-tight and is not accessible.

CONCLUSION

Make provisions to install new grounded duplex or quad receptacles throughout the office spaces with a minimum of two dedicated branch circuits per office. Many of the offices are shared with a multitude of computer and copying equipment. Remove the existing receptacles and related branch circuit wiring back to its source. Since the majority of the branch circuits are in conduit it may be just a matter of removing the existing cabling and installing a new branch circuit to an existing outlet location.

FIRE ALARM SYSTEM

The fire alarm system is Magnum Alert series, supervised via a local energy master box addressable. The system is located in the main electric room.

Zone 1	Boiler Room and Kitchen
Zone 2	Supply Room
Zone 3	Cafeteria pull station
Zone 4	All Purpose Room

The system consists of manual pull stations located in the center of the corridors.

The combination horn strobes are currently mounted at 96" above the finished floor and do not meet current ADA standards. Further information is required to determine whether or not the horns are adequate for the space and if the 85 db level required throughout the building is adequate.

Further information is required to determine whether or not the HVAC roof top units have duct smoke detectors to shut down the units in the event of a fire.

CONCLUSION

Disconnect and remove the existing fire alarm system in its entirety and replace with a new Addressable, ADA compliant system to meet the requirements of NFPA 72-2002 and the 780 CMR 6th Edition Massachusetts State Building Code Chapter 9.

Install ADA approved horn/strobes. Conduct a test to determine the db level throughout the facility. The audio signal should be maintained at 15 db higher than the surrounding ambient noise level.

Install the manual pull stations a height no greater than 54" above the finished floor. Install new devices adjacent to each means of egress.

Since the building is non-sprinklered, install new smoke detectors throughout the facility to properly protect the corridors, offices, storage rooms, multi-purpose room, etc.

Communications

The telephone entrance comes underground into the building. The service is located in main boiler room. The system appears to be adequate for the facilities current needs. If expansion and renovation occur, the system will require updating with potentially new lines installed from their service provider. It appears that the area around the equipment has the potential for water damage. The equipment is covered with a tarp to protect from water penetration.

Main Electrical Service

The main incoming electrical service is fed underground to a 600 ampere, 120/208 volt, 3 phase, 4 wire, 60 hertz main service board located in the main electric/mechanical room within the facility. The service currently protects the entire facility. The service manufactured by Kelex and is original to the building. The service panel is showing signs of deterioration.

The common floors have a dedicated 100 and 200 ampere, 120/208 volt, 3 phase, 4 wire circuit breaker load center panels located in the corridor spaces. The panels are full to capacity and are showing signs of deterioration.

The branch circuits installed throughout are a combination of cable in conduit and BX style cables with an integral ground. The cables appear to be original to the building with the exception of circuits added over the years. The cables are showing signs of deterioration and if renovations occur, should be replaced entirely.

May 18, 2007

CONCLUSION

Perform infrared scans on the main distribution board and branch circuit panels to ensure that the circuits are not overloaded as well as overheating due to load increase and equipment deterioration. Replace the panels with new bolt-on circuit breaker type panels.

Disconnect and remove the existing main distribution board and replace with a new larger service to allow for future growth. Potentially a 1000 to 1200 ampere to accommodate new air conditioning, lighting miscellaneous power, etc.

If the building were to remain as a town hall or as potentially as a place of refuge, then the existing primary electrical overhead lines should be removed and replaced underground to limit the potential for damage during a disaster.

Consideration should be made for a standby generator system to keep the building operation during a disaster situation.

Respectfully Yours,
SHEPHERD ENGINEERING, INC.

John D. Shepherd
John D. Shepherd

SHEPHERD ENGINEERING, INC.

1308 Grafton Street, Worcester, MA 01604 Phone 508.757.7793 Fax 508.753.2309

May 18, 2007

Mr. Eric Moore
Lamoureux Pagano Associates Architects
114 East Worcester Street
Worcester, MA 01604

Re: Electrical Site Survey Report
Police and Fire Department Building
39 Worcester Street
West Boylston, MA

Dear Eric:

On May 9, 2007, a site visit was made to the above referenced building to review the electrical systems currently installed throughout the property. The following observations were made:

Lighting
Site

The exterior site lighting consists of wall mounted high pressure sodium and metal halide flood lights used to illuminate the immediate area. Several exterior flood light fixtures are installed on utility poles which illuminate the parking area.

Although the fixtures are of different lamp types, they adequately illuminate the immediate area around the building and parking lot.

Corridors, Front Vestibule and Lobby

Lighting throughout the floor, consists of surface mounted incandescent fixtures. The fixtures are original to the building and are showing signs of deterioration.

Offices

The lighting consists of a series of surface mounted two lamp non-energy efficient fluorescent fixtures and surface mounted incandescent fixtures. The fixtures are not energy efficient but appear to be in good operating condition. The fixtures allow for adequate light but should be replaced with a fixture with glare control. The fixtures make it difficult to review material on the computer monitors.

Public Toilets

The lighting consists of incandescent, surface mounted fixtures that are original to the building. The level of light is adequate for the space.

Engine Bays

The lighting consists of a combination of non-energy efficient style strip lights with combination plug in style fluorescent lamps to illuminate the immediate areas around the trucks. The lighting is minimal at best and should be removed and replaced with an energy efficient high output fixture that will afford more light throughout the space.

CONCLUSION

- *Replace the fixtures throughout the entire facility with high efficient lighting with fluorescent lamps.*
- *Replace the fixtures in the toilets with energy efficient lamps.*
- *Install occupancy sensors within the office spaces. In spaces that were not occupied during the building review, the light fixtures were illuminated. If a means of automatically controlling the fixtures were to be installed, the building would realize a considerable savings in electrical demand usage.*
- *Install dimmable light fixtures within the dispatch center to allow for the occupants to control the lighting within the space to suite their environment.*

EMERGENCY LIGHTING AND EXIT SIGNS

Although on a generator back-up, the facility has minimal emergency lighting and exit signs to direct towards the means of egress.

CONCLUSION

- *Install exterior emergency lights to properly illuminate the egress path from the building as stated in Chapter 10 of the 780CMR 6th Edition Massachusetts State Building Code. The exit signs located above each of the egress doors may have to be replaced with a unit that has a higher battery capacity to provide power for the exterior emergency light.*

MISCELLANEOUS POWER

Corridors, Front Vestibule and Lobby

The common areas appear to have adequate general power installed throughout to protect the areas. The power is in good condition and at this time does not require upgrades.

Offices

There are minimal receptacles installed throughout the office areas. In several cases, there were only two receptacles per room.

Common Room

The space has minimal power located throughout the room.

Engine Bay

Adequate power appears to be installed throughout the engine bay area. The receptacles should however, be removed and replaced with GFI protection style.

CONCLUSION

Make provisions to install new grounded duplex or quad receptacles throughout the office and common spaces with a minimum of two dedicated branch circuits per office. Many of the offices are shared with a multitude of computer and copying equipment. Install new GFI type receptacles throughout the engine bay.

FIRE ALARM SYSTEM

The fire alarm system is manufactured by Gamewell Flexalarm series consisting of one manual pull station and one visual device outside of the Dispatch Center.

CONCLUSION

Disconnect and remove the existing fire alarm system in its entirety and replace with a new Addressable, ADA compliant system to meet the requirements of NFPA 72-2002 and the 780 CMR 6th Edition Massachusetts State Building Code Chapter 9.

Install ADA approved horn/strobes. Conduct a test to determine the db level throughout the facility. The audio signal should be maintained at 15 db higher than the surrounding ambient noise level. Consideration should be made to ensure that the db level does hinder the work performed within the dispatch center.

Install the manual pull stations a height no greater than 54" above the finished floor. Install new devices adjacent to each means of egress.

Since the building is non-sprinklered, install new smoke detectors throughout the facility to properly protect the corridors, offices, storage rooms, multi-purpose room, etc.

Communications

The telephone entrance is fed overhead into the building. The service is located adjacent to the main service entrance. The system appears to be adequate for the facilities current needs. If expansion and renovation occur, the system will require updating with potentially new lines installed from their service provider. It appears that the area around the equipment has the potential for water damage. The equipment is covered with a tarp to protect from water penetration.

Main Electrical Service

The main incoming electrical service is fed underground to a 600 ampere, 120/208 volt, 3 phase, 4 wire, 60 hertz main service board located in the lower level storage room. The service manufactured by Square D. Company and is original to the building. The main service disconnect switch feeds several branch circuit panels located throughout the facility.

The branch circuits installed throughout appear to be in good condition and with the exception of recommended new branch circuits adequately support the facility's needs.

CONCLUSION

Perform infrared scans on the main distribution board and branch circuit panels to ensure that the circuits are not overloaded as well as overheating due to load increase and equipment deterioration.

Further information is required to determine whether or not the current service is adequate to handle the future needs of the building.

Emergency Distribution System

The generator is located behind the building within a self contained enclosure.

The unit is manufactured by Kohler Co., natural gas, 120/208 volt, 3 phase, 4 wire with minimal hours of use. Further information is required to determine the size of the unit as well as what is actually protected by the generator throughout the facility.

CONCLUSION

The emergency systems throughout the building do not currently meet the requirements of NEC Article 700 Emergency Systems. If upgrades occur, the local inspector may insist that the normal and emergency systems be separated.

There are no records available indicating exactly what is currently operating on the emergency

system. A comprehensive analysis should be conducted throughout the facility to determine exactly what is currently operating on the system. As each piece of equipment is identified it should be labeled and documented on a set of building plans.

The generator and related emergency equipment are to be installed in a dedicated two-hour fire rated environment. All emergency panel feeders are to be minimum 2-hour fire rated.

Respectfully Yours,
SHEPHERD ENGINEERING, INC.

John D. Shepherd
John D. Shepherd

May 18, 2007

Mr. Eric Moore
Lamoureux Pagano Associates Architects
114 East Worcester Street
Worcester, MA 01604

Re: Electrical Site Survey Report
DPW and Sewer Department Building
35 Worcester Street
West Boylston, MA

Dear Eric:

On May 9, 2007, a site visit was made to the above referenced building to review the electrical systems currently installed throughout the property. The following observations were made:

Lighting
Site

The exterior lighting is all but non-existent on the building exterior. Lighting is located on the parking lot utility poles which illuminate the front of the building. The sides and rear of the building do not appear to have security lighting installed.

First Floor Level
Truck and Storage Bays

The lighting consists of a combination of non-energy efficient style strip lights to illuminate the immediate areas around the trucks. The lighting is minimal at best and should be removed and replaced with an energy efficient high output fixture that will afford more light throughout the space.

The stairwell to the second floor has minimal lighting which consists of incandescent lamps.

Second Floor Level
Offices, Corridors and Common Areas

The lighting installed throughout is insufficient for the spaces. The fixtures are in many case inoperable and those that due function are showing severe signs of deterioration.

CONCLUSION

- *Replace the fixtures throughout the entire facility with high efficient lighting with fluorescent lamps.*
- *Replace the fixtures in the toilets with energy efficient lamps.*
- *Install occupancy sensors within the office spaces. In spaces that were not occupied during the building review, the light fixtures were illuminated. If a means of automatically controlling the fixtures were to be installed, the building would realize a considerable savings in electrical demand usage.*
- *A test should be made on the existing fluorescent lighting ballasts to ensure that they do not contain PCB hazardous fluids.*

EMERGENCY LIGHTING AND EXIT SIGNS

The building has minimal emergency lighting to properly illuminate the means of egress. The exit signs are non-illuminated and are not adequate to indicate the means of egress.

CONCLUSION

- *Install new emergency battery units and self contained exit signs to properly illuminate the building and means of egress.*
- *Install exterior emergency lights to properly illuminate the egress path from the building as stated in Chapter 10 of the 780 CMR 6th Edition Massachusetts State Building Code. The exit signs located above each of the egress doors may have to be replaced with a unit that has a higher battery capacity to provide power for the exterior emergency light.*

MISCELLANEOUS POWER

The general power installed throughout the facility is minimal with many of the outlets ungrounded along with the branch circuit feeders. The outlets are showing signs of deterioration and in some case damage.

The minimal outlets installed throughout the truck bays are not GFI protected and due to their age may also be ungrounded.

CONCLUSION

Make provisions to install new grounded duplex or quad receptacles throughout the office and common spaces with a minimum of two dedicated branch circuits per office. Many of the offices are shared with a multitude of computer and copying equipment. Install new GFI type receptacles throughout the engine bay.

FIRE ALARM SYSTEM

The fire alarm system consists of a connection to a local energy master box which supervises the buildings sprinkler flow switch.

CONCLUSION

Furnish and install a new Addressable, ADA compliant system to meet the requirements of NFPA 72-2002 and the 780 CMR 6th Edition Massachusetts State Building Code Chapter 9.

Install ADA approved horn/strobes. Conduct a test to determine the db level throughout the facility. The audio signal should be maintained at 15 db higher than the surrounding ambient noise level.

Install the manual pull stations a height no greater than 54" above the finished floor. Install new devices adjacent to each means of egress.

Communications

The telephone entrance is fed overhead into the building. The service is located in the main truck bay. The system appears to be adequate for the facilities current needs. If expansion and renovation occur, the system will require updating with potentially new lines installed from their service provider. It appears that the area around the equipment has the potential for water damage. The equipment is covered with a tarp to protect from water penetration.

Main Electrical Service

The main incoming electrical service is fed overhead to a 200 ampere, 120/240 volt, 1 phase, 3 wire, 60 hertz main service board located in the entrance to the second floor level. The service manufactured by F.P.E. Company and is original to the building.

The branch circuits installed throughout are showing signs of deterioration with many of the branch circuits ungrounded.

CONCLUSION

Disconnect and remove the existing main service entrance cable along with the main distribution panel. Remove the branch circuit feeds to sub-panels and replace with new code compliant cable in conduit.

Install a new 400 or 600 ampere, 120/208 volt, 3 phase, 4 wire, 60 hertz distribution panel with capacity to distribute power to branch circuit panels located on the upper level, truck bay, storage area, future air conditioning, potential elevator, etc.

Emergency Distribution System

The building has a service rated switch located in the truck bay which can be switch over to a portable generator in the event of a power outage. Further information is required to determine exactly what is protected by this circuit.

Respectfully Yours,
SHEPHERD ENGINEERING, INC.

John D. Shepherd
John D. Shepherd

R.E. Cameron & Associates, Inc.
Surveying Engineering
681 WASHINGTON STREET, NORWOOD, MASSACHUSETTS 02062
PHONE (781) 769-1777 FAX (781) 769-8644
www.recameron.com

September 11, 2007

Mr. Leon A Gaumond, Jr.
Town Administrator
Town of West Boylston
Mixter Municipal Office Building
120 Prescott Street
West Boylston, Massachusetts 01583

Subject: 35 & 39 Worcester Street

Dear Mr. Gaumond:

At your request we have conducted research and analysis of the subject properties.

The research was begun by compiling all known deeds and plans of record. The property is bounded to the east by the Boston and Maine Railroad, to the south by Mount Vernon Cemetery, to the west by private owners and Worcester Street and to the north by private owners.

The plans for the Railroad and Worcester Street form the basis of the shape of the property. The legal descriptions of the private owners to the west and the cemetery to the south fit very well within the framework of the road and highway.

Although the Town of Boylston Assessors provided no specific deed for the town owned parcels, our research uncovered three specific parcels into the town complex.

1. Deed into the town from the Boston & Maine Railroad 1922 about 3.10 acres
2. Deed into the town from Philip and Mary Brinck, 1942 about 38,520 square feet.
3. Discontinued portion of old (1883) layout of a portion of Worcester Street, about 20,000 square feet.

The inconsistencies that we uncovered include the shape and direction of the line to the north forming the boundary with Michael Kittredge and the lack of a deed in for three triangular parcels. Two of the parcels are in the name of Mary A. Brinck and the third is believed to belong to the Commonwealth of Massachusetts. The parcels are identified on the accompanying plan as crosshatched.

The solution to identifying the three owners of the triangle parcels in question is to conduct a title examination by a professional examiner. The boundary line question of the land to the north would be reconciled by an on-the-ground survey of the land.

If you have any questions I would be pleased to meet with you or your committee to further describe our findings.

Very truly yours,

Scott Cameron, PLS
President
R.E. Cameron & Associates, Inc.

212

2262 DEED & PLAN FROM RAIL ROAD

(1)

this eleventh day of January in the year one thousand nine hundred and twenty-two.

Old Colony Trust Company, Trustes (seal)
By C B Humphrey Vice-President.
H. L. Turner Asst Secretary.

Commonwealth of Massachusetts.

Suffolk, ss. Boston, January 11, 1922. Then personally appeared the above named C. B. Humphrey, Vice-President, and H. L. Turner, Assistant Secretary, of the said Old Colony Trust Company, Trustee as aforesaid, and acknowledged the foregoing instrument to be the free act and deed of the said Old Colony Trust Company, before me

Abbott W. Fish Notary Public (seal)
My commission expires March 10, 1927.

Old Colony Trust Company

Certified copy of vote of Board of Directors

Upon motion duly made and seconded it was V O T E D: That the Chairman or Vice-Chairman of the Board of Directors, or the President or any Vice-President, is hereby authorized, on behalf of this Company, to sell, assign, transfer, deliver and convey any real estate or personal property, including shares of stock, bonds, notes, certificates of indebtedness and all other forms of intangible property now or hereafter owned by or standing in the name of this Company in its individual or any representative or fiduciary capacity, or in the name of any person or corporation for whom this Company may now or hereafter be acting under a power of attorney, and to execute and deliver such deeds, contracts, assignments or other documents as may be appropriate in the premises; also to execute proxies for shares of stock or other certificates of interest having voting privileges, execute partial releases from and discharges of mortgages, now or hereafter owned by this Company in its individual or any representative or fiduciary capacity, or owned by any person or corporation for whom this Company may now or hereafter be acting as attorney; the signature of such officer to be attested in each case by the Treasurer or Secretary or any Assistant Secretary under the seal of this Company.

I, H. L. Turner, Ass't. Secretary of Old Colony Trust Company, hereby certify that the foregoing is a true copy of a vote passed at a meeting of the Board of Directors of Old Colony Trust Company duly held on the 3rd day of February, 1920, at which a quorum was present, and I further certify that said vote has not been amended or revoked. I further certify that J. R. Wakefield, C. B. Humphrey, F. W. Denio and S. P. Shaw Jr., have been duly qualified to act as above in the capacity of Vice-President and that R. B. Fisher, H. L. Turner, G. A. Chisholm and George R. Angus have been duly qualified to act as above in the capacity of Assistant Secretary.

W I T N E S S my hand and the seal of said Company this 16th day of January 1922.

H. L. Turner Asst Secy (seal)

Rec'd Feb. 14, 1922, at 10h. 57m. A. M. Ent'd & Ex'd

* * * * * * *

B. & M. R.R. et al. to W.Boylston Inhab'ts

1-50¢ Stamp Cancelled

K N O W A L L M E N B Y T H E S E P R E S E N T S

that the Boston and Maine Railroad, a corporation duly established under the laws of the Commonwealth of Massachusetts, in consideration of the sum of One Dollar and other valuable considerations paid by Inhabitants of West Boylston, the receipt whereof is hereby acknowledged, does hereby G I V E, G R A N T, B A R G A I N, S E L L and C O N V E Y unto the said Inhabitants of West Boylston, its successors and assigns, a certain piece or parcel of land situated in WEST BOYLSTON in the County of Worcester and Commonwealth aforesaid, bounded and described as follows: Beginning on the location of the Worcester, Nashua and Portland Division of the Boston and Maine Railroad at land now or formerly of W. C. Ovenden at a point fifty (50) feet westerly from and on a line radial to the center line of said location, thence running southeasterly by said location on a curve to the right having a radius of two thousand eight hundred fourteen and ninety-three hundredths (2814.93) feet, two hundred fifty-three and twenty-nine hundredths (253.29) feet; thence turning and running South 17° 18' 5" East still by said location nine hundred forty-eight and fifteen hundredths (948.15) feet to a cemetery; thence turning and running South 61° 58' 25" West by said cemetery ninety-nine and twenty-six hundredths (99.26) feet; thence turning and running North 19° 53' 35" West still by said cemetery two hundred seventy-two and ninety-five hundredths (272.95) feet; thence turning and running North 18° 13' 35" West partly by said cemetery and partly by land now or formerly of Shepard four hundred six and thirty-two hundredths (406.32) feet to land now or formerly of Bullard; thence turning and running North 18° 17' 5" West by said last named land one hundred ninety-five and seventy-seven hundredths (195.77) feet; thence turning and running North 18° 21' 5" West partly by said land now or formerly of Bullard and partly by said land now or formerly of Ovenden two

hundred ninety-nine and fifty-nine hundredths (299.59) feet; thence turning and running North 51° 23' 55" East by said last named land one hundred twenty-one and seventy-six hundredths (121.76) feet to the point of beginning; said parcel containing three and one tenth (3.1) acres, and being shown on a plan marked "Land in West Boylston, Massachusetts. Boston and Maine Railroad to Inhabitants of West Boylston. E. D. Chapman (P) Real Estate Eng'r. Aug. 1921", herewith recorded, a copy of which is hereto attached, to which reference is hereby made for a further description of the premises hereby conveyed.

This conveyance is made subject to the following restriction for the benefit of other land of the grantor, that the grantee and its successors and assigns assume and will assume all responsibility for any damages to any property upon the granted premises, caused by fire, whether communicated directly or indirectly by or from locomotive engines upon the railroad operated by the grantor, or otherwise, and by the acceptance of this deed, the grantee agrees for itself and its successors and assigns, for the benefit of other land of the grantor, that no suits shall ever be brought for such damages against the said Boston and Maine Railroad, or its successors or assigns, by it, or any other persons.

T O H A V E and T O H O L D the granted premises, with all the privileges and appurtenances thereto belonging, to the said inhabitants of West Boylston, its successors and assigns, to their own use and behoof forever. And for the consideration aforesaid, the American Trust Company, a corporation duly established under the laws of said Commonwealth, Trustee and present holder of a mortgage given by the Worcester and Nashua Railroad Company to Charles W. Smith, et al., Trustees, dated August 1, 1879, recorded with Worcester County Worcester District Deeds, Book 1057, Page 251, does hereby release unto the said grantees, their heirs and assigns, all its right, title and interest in and to the above described land under and by virtue of said mortgage, and on and after the execution hereof it, the said American Trust Company, Trustee as aforesaid, its successors and assigns, will have and claim no right, title and interest in and to the above described premises, but this release shall not in any way affect or impair the right of said American Trust Company, Trustee, to hold under the said mortgage and as security for the sum remaining due thereon or to sell under the power of sale in said mortgage contained all the remainder of the premises therein conveyed and not hereby released.

I N W I T N E S S W H E R E O F the said Boston and Maine Railroad has caused these presents to be executed and its corporate seal to be hereto affixed by J. H. Hustis, its President, thereunto duly authorized, and the said American Trust Company, Trustee has caused these presents to be executed by Arthur B. Chapin its Vice President and its corporate seal to be hereto affixed by C. H. Bowen, its Secretary, thereunto duly authorized, this sixteenth day of January in the year one thousand nine hundred and twenty-two.

Boston and Maine Railroad (seal)
By J. H. Hustis President.
American Trust Company (seal)
By Arthur B Chapin Vice-President.
C H Bowen Secretary

Commonwealth of Massachusetts.

Suffolk, ss. Boston, February 13, 1922. Then personally appeared the above-named J. H. Hustis, President of the Boston and Maine Railroad, and acknowledged the foregoing instrument to be the free act and deed of said Boston and Maine Railroad, before me

Edward O. Woodward Justice of the Peace.
My commission expires December 24, 1926

Commonwealth of Massachusetts.

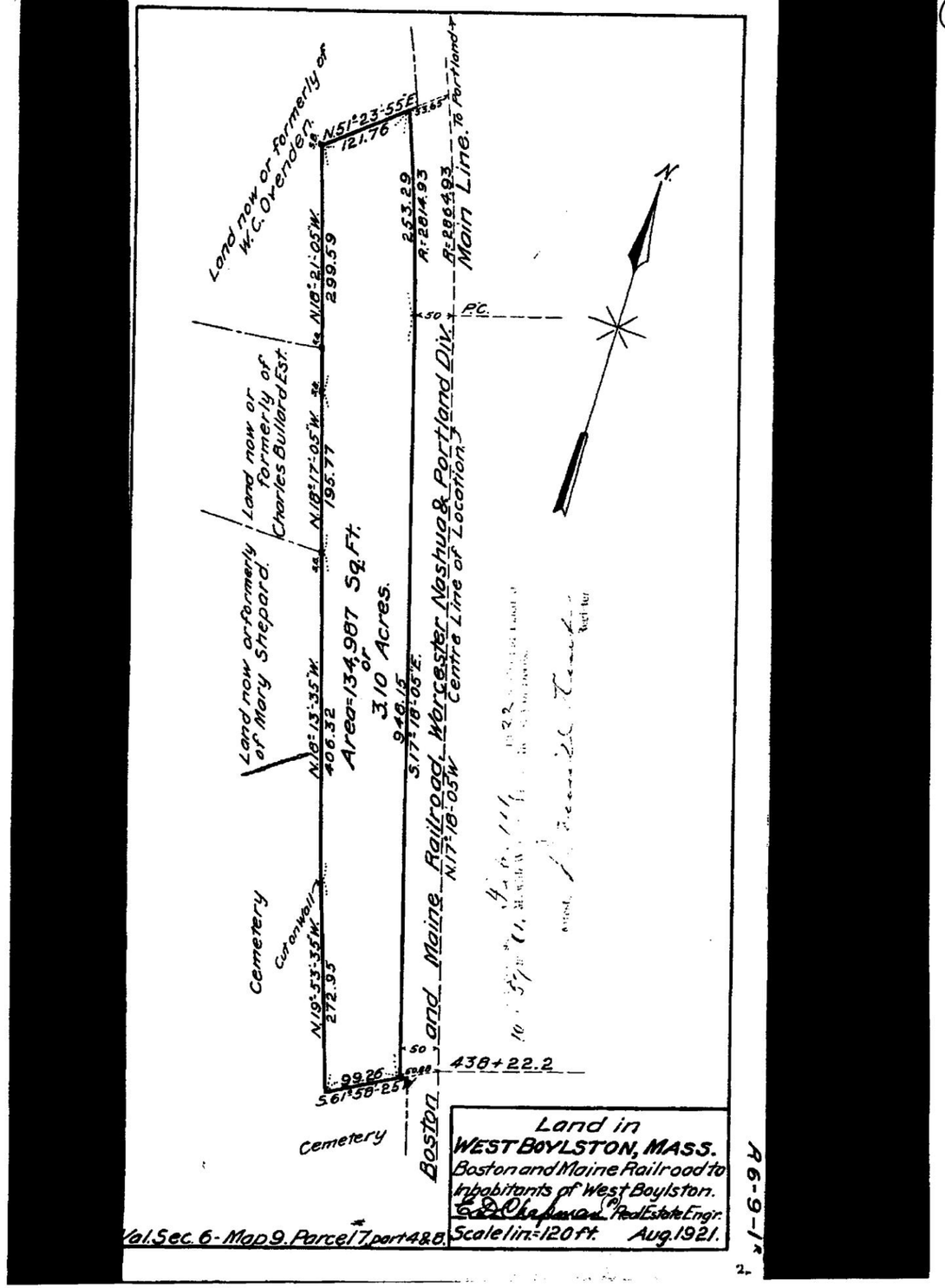
Suffolk, ss. Boston, January 16 1922. Then personally appeared the above named Arthur B. Chapin Vice President and C. H. Bowen, Secretary, of the said American Trust Company, and acknowledged the foregoing instrument to be the free act and deed of said American Trust Company, before me

Eugene W. Leighton Notary Public (seal)
My commission expires Feby 23 1923

At a meeting of the Board of Directors of Boston and Maine Railroad, duly called, notified and held on September 13, 1921, a quorum being present, the following action was taken: "V O T E D: To convey to Inhabitants of West Boylston a parcel of land in West Boylston, Massachusetts, containing three and one tenth (3.1) acres, and being shown upon a blueprint herewith submitted entitled 'Land in West Boylston, Mass. Boston and Maine Railroad to Inhabitants of West Boylston. E. D. Chapman (P) Real Estate Eng'r. Aug. 1921', in consideration of the payment of $500.; and the President of this Company is hereby authorized in its name and behalf to execute, acknowledge and deliver a deed of the same."

Attest:
Arthur B. Nichols Clerk. (seal)
American Trust Company

Extract from the Regulations adopted by the Board of Directors of the American Trust Company of Boston, Massachusetts, at a



DEED FROM BRINK TO TOWN

2876 2876

331 332

This mortgage shall include and be construed to cover all furnaces, heaters, ranges, mantels, gas and electric light fixtures, screens, screen doors, storm doors, storm windows, awnings and all other fixtures of whatever kind and nature at present contained in or on said buildings, or hereafter placed therein or thereon prior to the full payment and discharge of this mortgage.

The Mortgagor agrees to keep the buildings now or hereafter standing on said land insured against fire in a sum satisfactory from time to time to the holder of this mortgage, all insurance on such buildings to be for the benefit of and first payable in case of loss to such holder; that if the debt secured hereby shall not be paid when due, the holder hereof shall be entitled to thirty days' notice in writing before payment, unless foreclosure proceedings have been begun; and that in case any default in the condition of this mortgage shall exist for more than thirty days the entire mortgage shall become due at the option of the holder thereof.

This mortgage is upon the statutory condition, for any breach of which the mortgagee shall have the statutory power of sale.

Witness our hands and seals this twenty-fourth day of December, 1942

James Alvah Record

Derelda Etta Record

Commonwealth of Massachusetts

Worcester, ss. December 24, 1942

Then personally appeared the above-named

James Alvah Record and Derelda Etta Record

and acknowledged the foregoing instrument to be their free act and deed, before me

Justice of the Peace

My commission expires Aug. 25, 1944

Rec'd Dec. 31, 1942 at 12h. 59m. P. M. Ent'd & Ex'd.

★ ★ ★ ★ ★ ★ ★ ★ ★

Deed of [illegible]

We, Philip M. Brink and Mary A. Brink, husband and wife as tenants by the entirety, both

of West Boylston Worcester County, Massachusetts

for consideration paid, grant to

Town of West Boylston, a municipal corporation in said County and Commonwealth

with warranty covenants

two parcels of land in said West Boylston as follows:

[Description and encumbrances, if any]

PARCEL I

BEGINNING at a bound in the southeasterly line of the 1883 County Layout of Worcester Street at land of the Town of West Boylston and extending thence by said Town of West Boylston land south 7° 32' 45" east twenty-five and forty-nine hundredths (25.49) feet to a bound;

Thence south 89° 58' 25" west seventeen and sixty-eight hundredths (17.68) feet to the southeasterly line of said 1883 County Layout;

Thence by said southeasterly line of the 1883 County Layout north 29° 33' 05" east twenty-nine and six hundredths (29.06) feet to the point of beginning.

Containing approximately two hundred and twenty (220) square feet of land.

PARCEL II

BEGINNING at a bound in the easterly line of the 1915 State Highway Layout of Worcester Street seventy-six and fifty-two hundredths (76.52) feet northeasterly from a Massachusetts Highway Bound;

Thence along said easterly line of said 1915 State Highway Layout northerly to northwesterly by a curve of one thousand eight hundred ninety-six and ninety-two hundredths (1896.92) feet radius two hundred eighty and eighty hundredths (280.80) feet to a bound;

Thence north 37° 26' 00" east one hundred sixty-seven and nine-tenths (167.9) feet to a bound in the westerly line of land of the Boston & Maine Railroad;

Thence by said westerly line of land of the Boston & Maine Railroad south 21° 41' 15" east one hundred sixty-eight (168) feet to a bound in the northwesterly line of the 1883 County Layout of said Worcester Street;

Thence along the northwesterly line of said 1883 County Layout south 29° 33' 5" west two hundred ninety-six and ten hundredths (296.10) feet to other land of the grantors;

Thence by said grantors' land south 89° 58' 25" west twenty-seven and twenty-six hundredths (27.26) feet to the point of beginning.

Reference may be had to a deed of Mechanics National Bank to the within grantors, dated April 27, 1932, and recorded with Worcester District Deeds, Book 2562, Page 324; and also to a plan of land at Public Works Building, West Boylston, Worcester County Engineering Department, drawn by W. O. Lindquist and approved December 10, 1942 by Leslie O. Marden, County Engineer, to be recorded with Worcester District Deeds.

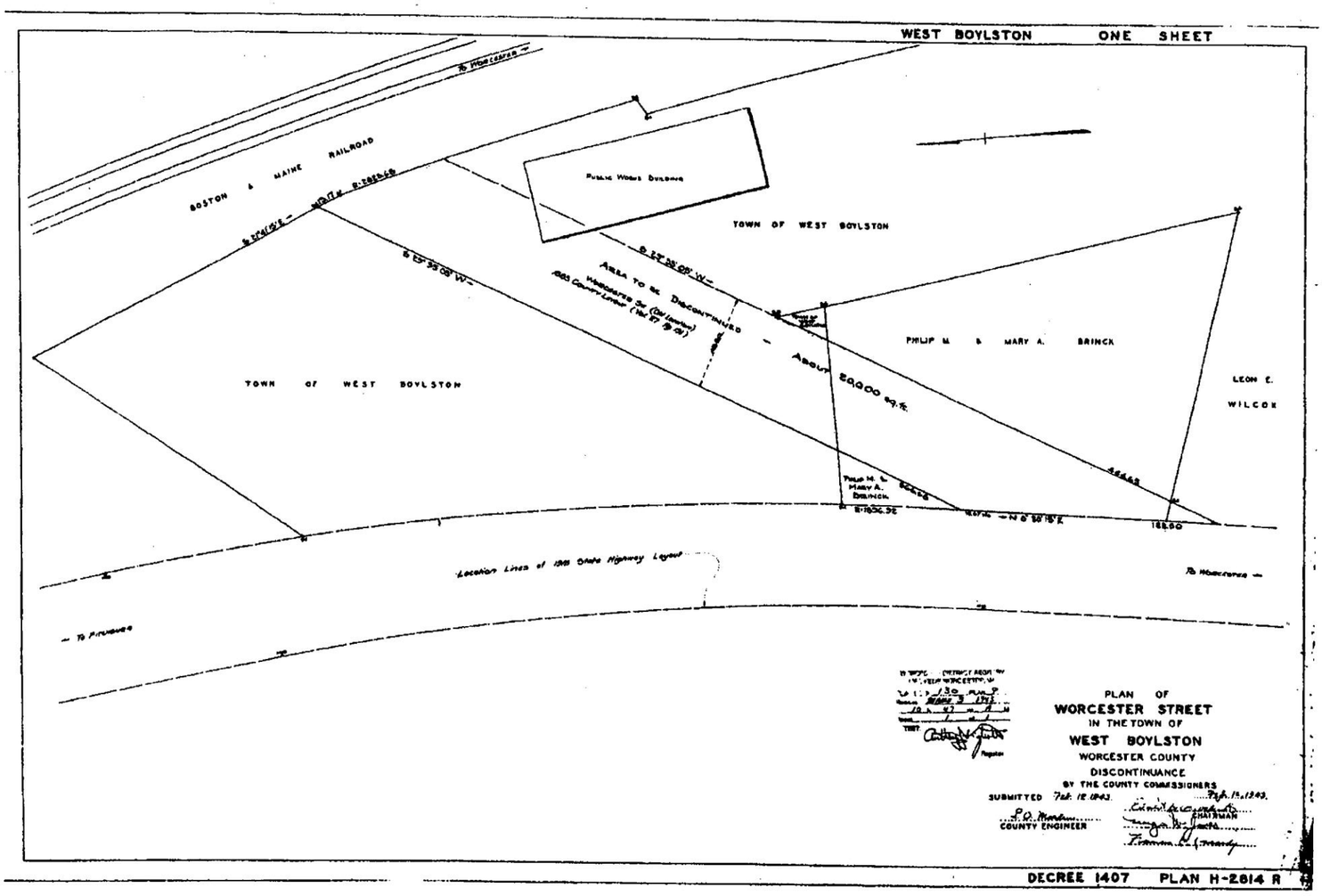
Parcel II contains thirty-eight thousand three hundred (38,300) square feet of land.

This conveyance is subject to such encumbrances of record as are now in force.

Witness our hands and seals this 31st day of December 1942

Philip M. Brink

Mary A. Brink


WEST BOYLSTON ONE SHEET
BOSTON & MAINE RAILROAD
Public Works Building
TOWN OF WEST BOYLSTON
Area to be Discontinued
about 20,000 sq. ft.
PHILIP M. & MARY A. BRINCK
LEON E. WILCOX
TOWN OF WEST BOYLSTON
Location Lines of 1965 State Highway Layout
PLAN OF
WORCESTER STREET
IN THE TOWN OF
WEST BOYLSTON
WORCESTER COUNTY
DISCONTINUANCE
BY THE COUNTY COMMISSIONERS
SUBMITTED Feb. 18, 1943.
P. O. Moran
COUNTY ENGINEER
CHAIRMAN
DECREE 1407 PLAN H-2614 R

November 7, 2007

HANCOCK
ASSOCIATES

Town of West Boylston
C/O Mr. Leon Gaumond, Jr.
120 Prescott Street
West Boylston, MA 01583

RE: Letter of Finding
120 Prescott Street
West Boylston, MA

Dear Mr. Gaumond, Jr.:

Hancock Associates inspected the property at 120 Prescott Street for the presence of wetland resources as defined by the Massachusetts Wetlands Protection Act (MGL 131 Ch. 40) and the Town of West Boylston wetlands bylaw. Stacy L. Carpenter performed the work. The intent of this letter is to provide paper documentation in support of the verbal report provided to the design engineer at the time of the site reconnaissance.

According to the Natural Resources Conservation Services, no hydric soils are mapped for the site. The site is dominated by well-drained Paxton fine sandy loam. No designation of Estimated or Priority Habitat (as listed by the most recent Natural Heritage and Endangered Species Program mapping) is on the parcel. No wetland resource areas as defined by the Massachusetts Wetlands Protection Act (MGL 131 Ch. 40) and the Town of West Boylston wetlands bylaw were observed on the property.

A wooded parcel abuts the developed town offices. An existing access path between the town offices and the Sterling Street residential area. The general topography of the site is of a moderate easterly slope pitched toward Sterling Street. A shallow, narrow ditch was cut into the slope to convey surface runoff from the manicured lawn behind the town offices to a catchbasin near the access path. The ditch is not considered an intermittent stream because it was constructed to receive surface overflow and is not connected to a resource area. Wetland vegetation was not observed adjacent to the ditch. The soils did not display the characteristics of hydric soil, such as gleying, mottling, redoxomorphic features or oxidized rhisospheres. Indicators of hydrology were not observed. The wooded area does not contain wetland resources.

One parcel is an open field that appears actively mowed. The topography is a moderate slope with an Easterly pitch towards Sterling Street. Upland grasses dominate the vegetation, indicators of hydrology and the soil did not display hydric characteristics. No wetland resources were determined to exist on this parcel.

Thank you for the opportunity to present these findings.
Should additional information be desired, please do not hesitate to contact me.

Respectfully,

Stacy L. Carpenter
Wetland Scientist

DANVERS, MA
185 Centre Street
Danvers, MA 01923
Phone: (978) 777-3050
Fax: (978) 774-7816

MARLBOROUGH, MA
28 Lord Road, Suite 280
Marlborough, MA 01752
Phone: (508) 460-1111
Fax: (508) 460-1121

LAKEVILLE, MA
4 Freetown Street
Lakeville, MA 02347
Phone: (508) 923-1002
Fax: (508) 923-0022

SALEM, NH
P.O. Box 205
Salem, NH 03079
Phone: (603) 898-4701
Fax: (603) 898-6263

www.hancockassociates.com