SITE ANALYSIS
GREENFIELD FIRE DEPARTMENT
GREENFIELD, MA

March 14, 1995
March 14, 1995

Greenfield Fire Station
Site Analysis

Forward

In January of 1994, Site Selection Criteria and Program Requirements were established for a new central fire station for the Town of Greenfield. Three sites have been identified as candidates for consideration. Each site involves acquisition of multiple parcels to provide adequate area for the new facility. Each site will be evaluated with particular attention to site development costs, topography, site utilities, traffic impact, dispatch routes and probable response times.

General Description and Site Locations

All three sites are located centrally in town: a) the north side of Silver Street near the intersection of Chapman Street, b) the west side of Federal Street between Bowles and Dickinson Streets, c) the east side of Wells Street at Legion Ave., near Main Street. For the basis of initial comparison the 100% Assessed Value of each site is listed below. Actual acquisition costs will vary depending on accepted bona fide offers for purchase, taking by eminent domain, or other means of land transfer to the town (i.e., gift or trade).

The Silver Street site is wooded with clear evidence of ledge and steep grade changes. Acquisition will entail 2.5 acres of land Zoned RA that includes all of Parcel 65 and one acre of Parcel 66 shown on Assessors Map R23. Current assessed value for Parcel 65 is $29,600.00. Excess acreage on Parcel 66 is valued at $1483/ac for a total assessed value of $31,000.00 There are no existing improvements on either parcel.

The Federal Street site is largely level and includes ten separate parcels with improvements on several parcels. Acquisition will entail 2 acres of land Zoned LC that includes Parcels 8, 9, 10, 11, 12, 13, 14, 15, 16 and 17 shown on Assessors Map 109. Existing improvements include two single family dwellings in good condition, one two family dwelling in average condition, a single story commercial building in fair condition, and a smattering of small outbuildings and structures. The assessed value for all parcels is $623,300.00. Of that total, $246,200.00 represents improvements and $377,100 represents land value.

The Wells Street site is zoned CC, abuts town property and could include a variety of acquisitions to meet site requirements. In reviewing options, parcels 37, portions of 36, 54A, 56 (Town owned), 57 (Legion Ave), 58, 59 and 60 on Assessors Map 058 were considered. Site 54A includes recently demolished structures. The remaining parcels and open land portion of parcel 36 is open land currently used for private or public parking. The assessed land value of all parcels is $170,100.00 not including town owned parcels.
The assessed values represent the basis for taxation of real property. At the current tax rate of $18 per thousand, the loss of tax revenues for each parcel would be: a) $558 per year for the Silver Street site, b) $11,219. for the Federal Street site, and c) $3,062 for the Wells Street site. While the assessed valuation of property establishes a benchmark for comparison, the suitability of each site needs to be explored in greater detail. The following general discussions of each site are supported with attachments following the text that demonstrate feasibility and illustrate the points enumerated in the text. In addition, property record cards from the Assessors office for each site and the needs assessment study are included as appendices.
Silver Street Site

The Silver Street site is located about a mile from the ideal location identified in the needs assessment study (Federal and Beacon Street intersection). Response coverage within the optimal 2-1/2 miles includes most of the town proper with northern and southern fringes of town beyond the optimal by 1/2 to 3 miles. Areas outside the optimal 2-1/2 miles include all of East Greenfield, the southern portion of town west of I-91, and the northern fringes of town. Of particular note outside the 2-1/2 mile optimal distance is the Industrial Park on Adams Road.

The Silver Street has several location factors that may affect response time. The Wells Street and Chapman Street intersections both turn away from the site as they intersect Silver Street. Each of these streets offers direct routes downtown, but, will be difficult to negotiate in certain pieces of apparatus. Davis Street affords a third north/south route towards downtown, but, has a tight turning radius for eastbound traffic turning right off Silver Street. Both Chapman and Davis Streets narrow considerably as they approach the Central Business District and could present obstacles if traffic is congested during dispatch times. Wells Street affords the best route to downtown, but, extends distances south of Bank Row. Re-design of the Wells and Silver Street intersection should be considered to facilitate ease in turning for all pieces of apparatus.

Sight lines for oncoming traffic from the site are marginally adequate and present a potential hazard. The gradient of the road west of the site limits visibility until the crest of the hill is reached at the site itself. To the east, Silver Street turns north and creates a blind spot for spotting oncoming traffic. Traffic speed on this section of Silver Street is typically higher than posted limits requiring longer sight distances for merging with traffic. Even if the building is located higher than street elevation which is likely given local site conditions, sight lines could be problematic. This potential hazard can be eliminated with the addition of a traffic control device (i.e., flashing yellow or stop light).

The Silver Street site at first pass looks imposing, it will entail blasting of rock ledge and reshaping the entire site to meet grading requirements. Site utilities available include electric, and telephone. Town water, Sanitary Sewer, Storm Drainage and Natural Gas are not available at the street and will require extension of services some distance in the street to the site. Because of extensive disruption of existing grade and the predominance of ledge near the surface, design of a septic system for the facility is not possible.

In Summary, factors in addition to acquisition costs to ready the site for construction that should be considered include: 1) Drilling and blasting existing ledge 2) Extension of site utilities 3) Redesign of the Wells and Silver Street intersection. Costs of these improvements are variable depending on the extent of ledge encountered. Ranges of probable costs are as follows: 1) Drilling and blasting ledge on site including clearing and grubbing vegetation and rough grading the site: $90,000 to $120,000 2) Extend utilities: $18,000 to $34,000 3) Re-configure Wells and Silver Street intersection: $24,000 to $32,000. Total range of probable cost is likely to be $132,000 to $186,000.
Silver Street Site Development Summary

Site area: 2.5 acres  
Frontage: 338 feet  
Zoning District: RA

Off site Improvements:

**Wells Street Re-alignment:**  
Assumptions: 130' x 50' of new roadway  
Average fill depth 3 feet  
Granite Curb and 5 foot sidewalk

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pavement and Sub-base:</td>
<td>700 s.y.</td>
<td>$7.00</td>
<td>$4,900.00</td>
</tr>
<tr>
<td>Compacted Gravel Base</td>
<td>700 c. y</td>
<td>$15.00</td>
<td>$10,500.00</td>
</tr>
<tr>
<td>Granite Curb</td>
<td>260 l.f.</td>
<td>$24.00</td>
<td>$6,240.00</td>
</tr>
<tr>
<td>Sidewalk</td>
<td>650 s.f.</td>
<td>$3.00</td>
<td>$1,950.00</td>
</tr>
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</table>

Total $23,590.00  
Add for contingencies 33% $8,100.00  
Total Range for Budget Purposes $24,000 to $32,000

**Extend Utilities on Silver Street:**  
Assumptions: 5' average depth by 400 feet of Sanitary and Water Service trenches  
Storm Drainage handled on-site

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Unit Cost</th>
<th>Total Cost</th>
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</thead>
<tbody>
<tr>
<td>Cut pavement</td>
<td>1600 l.f.</td>
<td>$1.50</td>
<td>$2,400.00</td>
</tr>
<tr>
<td>Excavate Trench</td>
<td>800 l.f.</td>
<td>$2.00</td>
<td>$1,600.00</td>
</tr>
<tr>
<td>Place bedding and pipe</td>
<td>800 l.f.</td>
<td>$12.00</td>
<td>$9,600.00</td>
</tr>
<tr>
<td>Fill Trench</td>
<td>800 l.f.</td>
<td>$1.50</td>
<td>$1,200.00</td>
</tr>
<tr>
<td>Patch Pavement</td>
<td>3200 s.f.</td>
<td>$1.00</td>
<td>$3,200.00</td>
</tr>
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</table>

Total $18,000.00  
Add for Rock Excavation 800 l.f. @ $20.00 $16,000.00  
Total Range for Budget Purposes $18,000 to $34,000

**Prepare Site to Subgrade**  
Assumptions 10,000 c.y. excavation and fill  
Rock prevalent throughout  
Blasting includes extra depth @ bldg

<table>
<thead>
<tr>
<th>Item</th>
<th>Quantity</th>
<th>Unit Cost</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clearing and Grubbing</td>
<td>2.5 acres</td>
<td>$4000</td>
<td>$10,000.00</td>
</tr>
<tr>
<td>Drilling and Blasting</td>
<td>10,000 c.y</td>
<td>$5.00</td>
<td>$50,000.00</td>
</tr>
<tr>
<td>Rough Grading</td>
<td>10,000 c.y</td>
<td>$3.00</td>
<td>$30,000.00</td>
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</table>

Total $90,000.00  
Add for Contingencies 33% $30,000.00  
Total Range for Budget Purposes $90,000 to $120,000

Total Range of Site Development Costs $132,000 to $186,000
**Scheme 1: One Story / Apparatus Room Perpendicular to Street**

**Site Area:** 104,957 Square Feet  
**Building Area:** 17,625 Square Feet  
**Residual Open Space:** 87,312 Square Feet

**District:** RA Urban Residential  
**Restrictions:**  
- Setbacks: Front, Side, Rear  
  - 25', 10', 50'  
- Minimum Open Space Requirement: 4,000 - 6,000 Square Feet  
- Height Limitation: 55 Feet

**Positive Aspects:**  
- Site offers adequate space for various plan configurations.  
- Land is vacant and does not require removal of existing commercial or residential development.

**Negative Aspects:**  
- Site topography is extreme at this location and therefore would increase the scope of work.  
- Sight lines for dispatching vehicles and entering traffic are poor due to road grade and curve.  
- Evidence of large boulder outcroppings will require blasting and make extension of street utilities expensive.  
- ADA compliance due to topography may be difficult.
Scheme 2: One Story / Apparatus Room Fronting Street

Site Area - 104,957 Square Feet
Building Area - 17,829 Square Feet
Residual Open Space - 87,112 Square Feet

District - RA Urban Residential
Restrictions:
Setbacks:
Front Side Rear
25' 10' 30'
Minimum Open Space Requirement - 4000 - 5000 Square Feet
Height Limitation - 29 Feet

Positive Aspects:
Site offers adequate space for various plan configurations. Land is vacant and does not require removal of existing commercial or residential development.

Negative Aspects:
Site topography is extreme at this location and therefore would increase the scope of sitework.
Sight lines for dispatching vehicles and incoming traffic are poor due to road gradient and curve.
Evidence of large rock outcroppings will require blasting and make extension of street utilities expensive.
ADA compliance due to topography may difficult.

Greenfield Fire Station
Federal Street Site

The Federal Street site a half mile north of the ideal location identified in the needs assessment study. Response coverage within the optimal 2-1/2 miles includes most of the town proper with northern and southern fringes beyond the optimal by 1/2 to 2-3/4 miles. Areas outside the optimal 2-1/2 miles include all of East Greenfield, the southern portion of town west of I-91 and northern fringes of town. This site is includes the industrial park off Adams Road within the 2-1/2 mile range.

The Federal Street Site is well suited for distribution of fire apparatus on major arteries. Of possible dispatch routes, only the left turn onto Silver from Federal could be considered tight for larger apparatus. During peak traffic periods standing lines of traffic waiting for the light at Silver and Federal Streets have been observed backed up as far as the site, but, this is by far the exception. In the main, traffic conflicts should not affect dispatching apparatus. Cross town routes and north/south access routes are direct and should facilitate good response times.

Sight lines for oncoming traffic at the site are good. The level of congestion at the site with Bowles and Dickinson Streets bounding the site and Stanley Street adjacent to it may warrant a traffic control device to alert traffic of dispatching vehicles.

Since the site has improvements on them, demolition expenses are the bulk of the site preparation costs. While much of the site is open, two single family dwellings in good condition have been recently purchased and are owner occupied. Even though the properties are zoned light commercial, the use is clearly residential and part of a "mini" neighborhood. If a two story administration wing is considered, displacement of these two residences is not necessary to meet program requirements and would reduce acquisition and site development costs. The remaining parcels in the block are in common ownership that could simplify the acquisition process. Two alternate schemes showing preservation of these two residences are included for comparison purposes.

Since the site is essentially level, minimal site preparation is required. Public Utilities are readily available. Development costs are mostly demolition and removal of structures and improvements. Demolition and removal costs can be very high and variable depending on transportation distances and tipping fees. No survey of possible hazardous materials has been performed to identify potential abatement costs for asbestos or other materials. These potential expenses cannot be identified at this time and are not included as part of the projected development costs. Once buildings are demolished and removed, controlled fill will be placed in the foundations to prepare for construction. Planning the new facility to avoid existing building locations will negate the need for foundation removal. Demolition expenses for three wood frame dwellings and the one story commercial building will range between $18,000 to $24,000. Controlled fill of basements and foundations will range between $3,000 and $6,000. Pavement demolition will be nearly as extensive since a predominance of the site is paved (3800 square yards) with probable costs of $15,000 to $23,000. Off-site disposal of demolition materials will range between $18,000 to $27,000. Overall site preparation costs will range between $64,000 and $80,000. Preserving the two Bowles Street dwellings could reduce demolition and disposal costs by $13,000 to $20,000.
Federal Street Site Development Summary

Site area: 2.1 acres  
Frontage: 977 feet  
Zoning District: LC

**Building Demolition**

<table>
<thead>
<tr>
<th>Structure Type</th>
<th>Square Feet</th>
<th>Rate</th>
<th>Cost</th>
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</thead>
<tbody>
<tr>
<td>Single Family Wood Frame</td>
<td>4,550 s.f.</td>
<td>$1.20</td>
<td>$5,460.00</td>
</tr>
<tr>
<td>Two Family Wood Frame</td>
<td>4,990 s.f.</td>
<td>$1.20</td>
<td>$5,980.00</td>
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<tr>
<td>Commercial Wood Frame</td>
<td>3,600 s.f.</td>
<td>$1.80</td>
<td>$6,480.00</td>
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Total Building Demolition: $17,930.00

Add for Slab Demo @ Comercial Building: $6,000.00

Range for Building Demolition: $18,000 to $24,000

**Controlled Fill @ Basements**

<table>
<thead>
<tr>
<th>Description</th>
<th>Square Feet</th>
<th>Rate</th>
<th>Cost</th>
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</thead>
<tbody>
<tr>
<td>6 foot depth</td>
<td>2,800 s.f.</td>
<td>$1.00</td>
<td>$2,800.00</td>
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<tr>
<td>Add if walls removed</td>
<td>380 l.f.</td>
<td>$8.00</td>
<td>$3,040.00</td>
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Range of Controlled Fill: $3,000 to $6,000

**Paving Demolition**

<table>
<thead>
<tr>
<th>Description</th>
<th>Square Feet</th>
<th>Rate</th>
<th>Cost</th>
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</thead>
<tbody>
<tr>
<td>Parking Areas</td>
<td>3,800 s.y.</td>
<td>$4.00</td>
<td>$15,200.00</td>
</tr>
<tr>
<td>Add if thick pavement</td>
<td>3,800 s.y.</td>
<td>$2.00</td>
<td>$7,600.00</td>
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Range for Paveement Demolition: $15,000 to $23,000

**Off-Site Disposal**

30 cubic yard containers Minimum 20 containers @ $900.00: $18,000.00

Maximum 30 containers @ $900.00: $27,000.00

Range for Disposal: $18,000 to $27,000

**Savine Bowles Street Residences**

<table>
<thead>
<tr>
<th>Description</th>
<th>Square Feet</th>
<th>Rate</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building Demolition</td>
<td>4,550 s.f.</td>
<td>$1.20</td>
<td>$5,460.00</td>
</tr>
<tr>
<td>Controlled Fill @ Basements</td>
<td>1,400 s.f.</td>
<td>$1.00</td>
<td>$1,400.00</td>
</tr>
<tr>
<td>Add Wall Removal</td>
<td>208 l.f.</td>
<td>$8.00</td>
<td>$1,664.00</td>
</tr>
<tr>
<td>Off-Site Disposal Minimum</td>
<td>7 containers</td>
<td>@ $900.00</td>
<td>$5,400.00</td>
</tr>
<tr>
<td></td>
<td>9 containers</td>
<td>@ $900.00</td>
<td>$8,100.00</td>
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Range of Savings: $12,000 to $16,000

Total Range of Site Development Costs: $40,000 to $80,000
Scheme 1: One Story / Apparatus Room Perpendicular to Street

Site Area = 89,766 Square Feet
Building Area = 17,625 Square Feet
Residual Open Space = 69,134 Square Feet

Restrictions:
Setbacks:
Front: 0' 0"
Side: 25' (due to adjacent school)
Rear: 0' 0"

Minimum Open Space Requirement = 4000 - 5000 Square Feet
Height Limitation: 54 Feet

Positive Aspects:
- Site offers good vehicle access.
- Site Topography is relatively flat and would require minimal grading.
- Dimensional requirements are less restrictive than Site #11.
- Site is located close to major access routes which may facilitate response times.
- Site Topography allows easy ADA compliance.

Negative Aspects:
- This parcel may be more expensive to acquire due to existing improvements and uses.
- Interface with traffic coming at Silver and Federal Street could adversely impact dispatches.
- Opposition to project may be felt from residential abutters because of impact on neighborhood.

Silver Street
Federal Street
Greenfield High School
Bowles
Dickinson
Greenfield Fire Station

March 14, 1995
Juster Pope Frazier Site #2
Scheme 2  One Story / Apparatus Room Fronting Street

Site Area - 89,756 Square Feet
Parking Area - 17,625 Square Feet
Residual Open Space - 69,151 Square Feet

District = LC Limited Commercial

Restrictions:
Setbacks Front Side Rear
0'  0'  25' (due to adjacent school)

Positive Aspects:
- Site offers good vehicle access.
- Site topography is relatively flat and would require minimal grading.
- Dimensional requirements are less restrictive than Site #1.
- Site is located close to major access routes which may facilitate response times.
- Site topography allows easy ADA compliance.

Negative Aspects:
- This parcel may be more expensive to acquire due to existing improvements and uses.
- Interface with traffic on Silver and Federal Street could adversely impact dispatches.
- Opposition to project may be felt from residential abutters because of impact on neighborhood.

Greenfield High School

Silver Street

Federal Street

Greenfield Fire Station

March 14, 1995

Justice Pope Frazier
Scheme 1a  Two Story / Apparatus Room Fronting Street

Site Area = 69,766 Square Feet
Parking Area = 17,623 Square Feet
Residual Open Space = 69,151 Square Feet

District = LC Limited Commercial
Restrictions:
- Setback Front Side Rear
  - 0' 0' 25' (due to adjacent school)
- Minimum Open Space Requirement = 4000 - 5000 Square Feet
- Height Limitations: 35 feet

Positive Aspects:
- Site offers good vehicle access.
- Site topography is relatively flat, and would require minimal grading.
- Dimensional requirements are less restrictive than Site #1.
- Site is located close to major access routes which may facilitate response times.
- Site topography allows easy A/V compliance.
- Scheme preserves owner occupied residences.

Negative Aspects:
- This parcel may be more expensive to acquire due to existing improvements and uses.
- Interface with traffic entering Silver and Federal Street could adversely impact dispatches.

Greenfield Fire Station

Site Evaluation
Juster Pope Frazier
March 14, 1995
Site #2
Scheme 2a: Two Story / Apparatus Room Perpendicular to Street

Site Area = 89,796 Square Feet
Building Area = 17,625 Square Feet
Residual Open Space = 69,151 Square Feet

District = L.C. Limited Commercial
Restrictions:
- Setbacks: Front 60', Side 25', Rear 0'
- Due to adjacent school
- Minimum Open Space Requirement = 4000 - 6000 Square Feet
- Height Limitation: 35 Feet

Positive Aspects:
- Site offers good vehicular access.
- Site topography is relatively flat and would require minimal grading.
- Dimensional requirements are less restrictive than Site #1.
- Site is located close to major access routes which may facilitate response times.
- Site topography allows easy ADA compliance.
- Scheme preserves current occupied residences.

Negative Aspects:
- This parcel may be more expensive to acquire due to existing improvements and uses.
- Increased traffic at Silver and Federal Street could adversely impact dependability.

Silver Street

Greenfield High School

Dickinson

Bowles

Stanley

Site Evaluation
Juster Pope Frazier
March 14, 1995
Site #2
Wells Street Site

The Wells Street site is located a mile southwest of ideal location identified in the needs assessment study. Response coverage within the optimal 2-1/2 miles includes nearly all of the town south of the Route 2 by-pass and east of I-91 with the exception of portions of East Greenfield. Western coverage includes GCC Campus and Commercial properties west of I-91. Most properties north of the by-pass and in the meadows are beyond the 2-1/2 mile radius including the industrial park. Properties near the northern borders of Leyden and Bernardston are approaching 5 miles.

Site lines for oncoming vehicle are good unless the entrance to the street is north of Legion Ave. The slope of Wells Street begins to obstruct sight lines to the south. The proximity to Main Street necessitates visual contact with the Wells and Main Intersection. A traffic control device at this intersection would be recommended. Dispatching to the east along Main Street during peak traffic could cause delay in response times for nearly the town, since no other cross town route well suited for fire apparatus exists. Because of the intersection at Wells and Silver Streets (tight turns and difficult right), development of a town way running westerly between Wells and Conway was considered to improve response times northerly via Conway Street.

The Wells Street site offers numerous challenges to become a viable site. Because the site requires dispatch to the north and south, the apparatus bay should be located fronting the site. The largest parcel (Lot 54A, Map 058) slopes nearly eleven feet across its 210 feet of frontage and is not deep enough (113 feet) to accommodate a station fronting Wells Street. The site levels toward the Legion Ave end. All the other parcels lie south of Legion Ave and are relatively level. In order to optimize the sites potential, re-design of service access and parking on all parcels was considered regardless of Ownership. If Ownership is not transferred to the Town, then it will require cooperation and agreements with several properties and businesses. Programmatic changes were considered to minimize impact on adjacent parcels.

Two schemes are shown to illustrate the impact revising program requirements can have on site development and acquisition costs. Site redesign required to meet the preferred dual access apparatus room program requirement is extensive (Scheme 1). If drive-through bays are not required and the apparatus room can be divided into two spaces to take advantage of the sites topography, then the impact on development costs can be greatly reduced because much less land area is affected (Scheme 2).

Development costs for the Wells Street Site could be extensive. Virtually the entire parking area behind the buildings fronting Main Street and west of Sears Ave would need to be reconstructed to allow for safe turning of fire apparatus circulating on the site to access the rear of the apparatus bay. Probable costs for site modifications range from $34,000 to $46,000. In addition, off-site improvements (Conway to Wells connector and traffic control light) could range $75,000 to $111,000 not including acquisition costs. Savings of $18,000 to $64,000 through modifying program requirements and/or realignment of the Wells & Silver intersection instead of constructing the Wells to Conway connector could ease development costs.
Wells Street Site Development Summary

Site area: 0.9 to 2.5 acres
Frontage: 350 - 480 feet
Zoning District: CC

Off site Improvements:

Wells Street Re-alignment:
See Silver Street Site for breakdown summary
Total Range for Budget Purposes $24,000 to $32,000

Wells to Conway Street Connector:
Assumptions: 360' x 40' of new roadway
Balanced cut & fill average depth 2 feet
Granite Curb and 5 foot sidewalk

| Pavement and Sub-base:       | 1600 s.y. @ $7.00 | $11,200.00 |
| Rough Grading & Base         | 900 c. y @ $15.00 | $13,500.00 |
| Granite Curb                 | 720 l.f @ $24.00  | $17,280.00 |
| Guard Rail                   | 200 l.f.@ $12.00  | $2,400.00  |
| Sidewalk                     | 1800 s.f.@$3.00   | $5,400.00  |
| Total                        |                   | $49,780.00 |
| Add for contingencies        | 33%               | $16,430.00 |
| Total Range                  |                   | $50,000 to $66,000 |

Traffic Control Light
Assumptions: Dispatch controlled signal two locations
Front of Station & Wells/Main Street Intersection

Total Range $25,000 to 45,000

On Site Development Costs

Parking Lot Reconfiguration
Assumptions: Remove concrete barriers
Cut and Patch binder, add wear layer of paving.

| Remove Barriers              | 240 l.f. @ $40.00 | $9,600.00 |
| Cut and Patch binder         | 320 s.y.@$8.00    | $2,560.00 |
| Add wear layer               | 5,500 s.y.@$4.00  | $22,000.00 |
| Total                        |                   | $34,160.00 |
| Add for contingencies        | 33%               | $11,270.00 |
| Total Range                  |                   | $34,000 to $46,000 |

Total Range of Site Development Costs $83,000 to $157,000
Scheme 2: Two Story / Apparatus Room Perpendicular to Street

- Site Area: 108,690 Square Feet
- Building Area: 17,625 Square Feet
- Residual Open Space: 91,065 Square Feet
- District: CC Central Commercial
- Restrictions:
  - Setbacks: Front, Side, Rear
    - 0', 0', 0'
  - Minimum Open Space Requirement: 0%
  - Height Limitations: 90 Feet

Conway Street Connector

Positive Aspects:
- Scheme utilizes flat areas of site
- Dimensional Requirements are least restrictive of all sites
- Existing improvements (i.e. parking & gravel base) could be incorporated into this scheme
- Dispatch Visibility good

Negative Aspects:
- Rear access to apparatus bay through municipal parking
- Existing parking and site circulation requires redesign
- Requires relocation and replacement of existing Right of Way with affected businesses
- Interface with traffic on Main Street impacts response time for existing Dispatches

Greenfield Fire Station

Site Evaluation
Juster Pope Frazier

March 14, 1995
Site #3
Site Comparisons

The basis of site evaluation for comparative purposes includes location relative to the optimal site identified in the needs assessment study, impact on neighboring properties, and site development costs. Acquisition costs are not included in this comparison, but, should be factored into final site selection.

Location

Two sites (Silver and Federal) are located in within 1/2 mile of each other. The Wells Street site is over a mile southwest of the first two sites. When comparing response times to all locations in town, the Federal Street site is favored because it includes the industrial park off of Adams Road within the 2-1/2 mile distance established as optimal by ISO (See Needs Assessment Study). Since off premise improvements are required for the Wells and Silver Street sites are necessary, the Federal Street site is again slightly favored. The blind spot at the Silver Street site and traffic congestion at the Federal Street and Wells Street sites represent different, but, essentially equal disadvantages. All sites may warrant traffic control devices for safe dispatch of apparatus.

Neighborhood Impact

The Silver Street site is somewhat isolated with few abutters. It is generally surrounded by open space. Other than the effective clearing and leveling of a hilly wooded site, this site will have minimal impact on the neighboring properties. The main loss would be wooded lands perceived as open space. Potential damage to surrounding properties during blasting operations can be minimized using current technologies for controlling size and frequency of charges. The overall impact could be summarized as neutral.

The Federal Street site is an aggregate of uses ranging from residential to commercial. It abuts playing fields for the high school. Current use of the property as a car sales lot and its adjacent vacant commercial building could be perceived by some as a "blight on the landscape". The introduction of a new central fire station to the site could be perceived as a welcome change. The small grouping of residences on Bowles Street has a comfortable neighborhood feel and the loss of the two dwellings on the site would adversely impact the integrity of this neighborhood. The properties on Dickinson Street would be impacted to a lesser degree given current conditions of properties within the proposed site. Overall the impact could be summarized as negative because of the loss of dwelling units for Schemes 1 and 2 and neutral for Schemes 1a or 2a.

The Wells Street site is part of the downtown fabric of commercial buildings and associated parking areas. The new station would blend well within this context. In order to meet the program requirements, the drive through apparatus bay projects in front of the American Legion premises. The rear apron for vehicles is directly in front of the building. The lower impact scheme mitigates this negative impact on this building, but, this requires program compromises. Overall the impact on the neighborhood could be summarized as negative for scheme 1 and neutral for scheme 2.
At first glance, the Silver Street site is favored with respect to neighborhood impact over the other two sites. This advantage is diminished if the Federal Street scheme preserving the two Bowles Street dwellings is adopted. Preserving the Bowles Street neighborhood and developing a landscape buffer between the new station and abutting residences could be seen as a positive impact on the neighborhood. The Wells Street site could also overcome disadvantages by revising program requirements. In essence each site could produce solutions that do not adversely impact the neighborhood and still meet the needs for a new facility.

Site Development Costs

For the purpose of site analysis, site development costs have been defined as those expenses necessary to provide site ready for building construction. Because of the existence of ledge on the Silver Street site, some grading as well as drilling and blasting have been included as part of site development costs. Site development costs common to all sites have not been included as part of site development costs. These include paving, loaning, seeding, landscaping, site lighting and similar expenses that will be part of any new facility. Another way to evaluate site development costs is to separately identify pre-construction or up front costs from costs normally performed routinely as part of site work in building construction. Site development costs have been identified to prepare each site for building construction. These were a range of $132,000 to $186,000 for the Silver Street site and $54,000 to $80,000 for the Federal Street site and $109,000 to $157,000 for the Wells Street site. Some cost reductions are possible with the Bowles Street preservation scheme at the Federal Street site and the Split Apparatus bay scheme at the Wells Street site.

Some costs associated with the Silver Street scheme (extension of utilities and reconfiguration of the Wells and Silver Street intersection) should precede site construction. Ledge Removal could be included as part of the scope during building construction. Excluding ledge removal from pre-construction expenses would lower up front development costs, but, obviously increase construction costs. Additionally, arguments could be made against re-configuring the Wells and Silver Street intersection and using Conway Street as the main north/south access to downtown eliminating $24,000 to $32,000 of development expense altogether.

In the case of the Federal Street site, demolition and removal of the buildings including controlled fill of cellar holes should precede building construction. Paving removal could be deferred to the building construction phase and, depending on the final scheme, some preservation of paving could be incorporated into the scope of work.

The Wells Street site requires some creative planning and cooperation of abutting property owners for successful implementation. While some savings of on-site development costs could be realized, the result compromises the program needs of the station. In any event, the off premise development of the Conway to Wells Connector Street or reconstruction of the Silver and Wells Street intersection should occur concurrently if not before construction of the new station. On site development could be deferred to the construction phase since similar activities will occur as part of the work.
If pre-construction costs are compared for each site, then the "up front" costs would be $42,000 to $66,000 for the Silver Street site with a potential savings of $24,000 to $32,000 as discussed above. For the Federal Street site pre-construction costs will be $39,000 to $57,000. If the Bowles Street preservation scheme is adopted the Federal Street numbers would be reduced to $26,000 to $37,000. For Wells Street, $24,000 to $66,000 in pre-construction costs would be required for improving dispatch routes with on-site work deferred.

Summary

Each site provides adequate area for the proposed facility and reasonably equal fire protection coverage for the Town of Greenfield. Major advantages and disadvantages of each scheme are:

Silver Street

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) low acquisition cost</td>
<td>1) extensive site work required</td>
</tr>
<tr>
<td>2) low impact on neighborhood</td>
<td>2) no available utilities in street</td>
</tr>
<tr>
<td>3) negligible tax revenue loss</td>
<td>3) no direct route south of Main Street</td>
</tr>
<tr>
<td>4) good planning flexibility</td>
<td>4) poor sight lines for oncoming traffic</td>
</tr>
</tbody>
</table>

Federal Street

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) level site</td>
<td>1) high acquisition cost</td>
</tr>
<tr>
<td>2) utilities available in street</td>
<td>2) lost tax revenues</td>
</tr>
<tr>
<td>3) direct access south of Main Street</td>
<td>3) neighborhood impact</td>
</tr>
<tr>
<td>4) good planning flexibility</td>
<td>4) in congested area</td>
</tr>
<tr>
<td>5) good visibility for oncoming traffic</td>
<td>5) demolition expenses</td>
</tr>
</tbody>
</table>

Well Street

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) utilities available at site</td>
<td>1) program compromises likely</td>
</tr>
<tr>
<td>2) low impact on neighborhood</td>
<td>2) poor dispatch routes</td>
</tr>
<tr>
<td>3) level site</td>
<td>3) in congested area</td>
</tr>
<tr>
<td>4) moderate acquisition cost</td>
<td>4) moderate tax revenue loss</td>
</tr>
</tbody>
</table>

It would be unfair to recommend one site over the others. Each of the sites lack characteristics that overwhelmingly favor it. The Silver and Federal Street sites are workable and provide good planning flexibility. The Wells Street site is somewhat more challenging, but, these challenges are not insurmountable often produce creative solutions. Any of the sites would be well suited for the Town's needs. It would be in the Town's interest to pursue all sites since assumed acquisition costs are based only on assessed valuation. Perhaps after public discourse and methods of acquisition determined one site will emerge as more favorable. At this juncture, all sites are favorable candidates and should not be ruled out as viable sites for the new central fire station.
### Property Location

**Location:**

- **No.**: 130
- **Alt. No.**: 1
- **Name**: STEVEN H
- **Way**: Lot

### Ownership and Mailing Information

- **Owner 1**: JOHNSON STEVEN H
- **Owner 2**: JEAN JOHNSON
- **Street**: 72 PROSPECT ST
- **City**: GREENFIELD
- **State**: MA
- **Zip**: 01301

### Narrative Description

- **This card has 1.5 acres of land, mainly classified as residential.**

### Property Factors

<table>
<thead>
<tr>
<th>Date</th>
<th>Zoning</th>
<th>Designated Use</th>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>86a</td>
<td></td>
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</tbody>
</table>

### Land Section

- **Use Code**: 130
- **Land**: 1.55 acres
- **Total Acres**: 1.55
- **Total Square Feet**: 23,600

### Special Features and Yard Items

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>92</th>
<th>Size or Units</th>
<th>Unit Price</th>
<th>R B</th>
<th>Sound Value</th>
<th>8888</th>
</tr>
</thead>
<tbody>
<tr>
<td>130</td>
<td>LAND</td>
<td>40,000</td>
<td></td>
<td>250,000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>139</td>
<td>LAND</td>
<td>640 A</td>
<td></td>
<td>2,500</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

### Assessment Summary

<table>
<thead>
<tr>
<th>Building</th>
<th>Value</th>
<th>Yard Items</th>
<th>Land Area (ac)</th>
<th>Assessed Land Value</th>
<th>Total Assessed</th>
<th>93</th>
</tr>
</thead>
<tbody>
<tr>
<td>130</td>
<td>29,600</td>
<td>0</td>
<td>1.56</td>
<td>29,600</td>
<td>29,600</td>
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</tr>
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</table>

### Prior Assessment

<table>
<thead>
<tr>
<th>Building</th>
<th>Value</th>
<th>Yard Items</th>
<th>Land Area (ac)</th>
<th>Assessed Land Value</th>
<th>Total Assessed</th>
<th>93</th>
</tr>
</thead>
<tbody>
<tr>
<td>61</td>
<td>29,600</td>
<td>0</td>
<td>1.56</td>
<td>29,600</td>
<td>29,600</td>
<td></td>
</tr>
</tbody>
</table>

### Building Description

- **Type**: Vacant Land

### Building Permits

- **Prv**: Yes
- **Prv No**: 053
- **Ampl**: 053

### Sales Information

- **Legal Reference**: 2176/004
- **Date of Sale**: 12/01/67
- **Sale Price**: $29,600
- **Sales Price Per Sale**: $38,000

### Depreciation

- **Condition**: 9%
- **Depreciation**: 9%
- **Total Depreciation**: 9%

### Other Features

- **Suites**: 2
- **V2 Balls**: 3
- **W1 Flats**: 2
- **W7 Raft**: 0
- **Heat Sys**: Water
- **W1 Raft**: 0
- **Sewer**: Water
- **W1 Road**: 0

### Comparative Sales

- **Rent**: $29,600
- **sale price**: 93

### Alt. Approach

- **Comparable Sales (R)**: 29,600
- **Income Approach (F)**: 29,600
- **Multiple Regressions (F)**: 29,600
- **Income Approach (F)**: 29,600
- **Comparable Sales (R)**: 29,600
- **Income Approach (F)**: 29,600
- **Multiple Regressions (F)**: 29,600
- **Income Approach (F)**: 29,600
- **Comparable Sales (R)**: 29,600
- **Income Approach (F)**: 29,600
- **Multiple Regressions (F)**: 29,600
- **Income Approach (F)**: 29,600

### Inspection Info

- **Date**: 03/03/75
- **Result**: 03/03/75
- **By**: 03/03/75
- **Code**: 03/03/75

### Condo Data

- **Floor View**: Condo
- **Total**: Condo
- **Floor**: Condo
- **Total**: Condo

### Calculations

- **W1**: Condo
- **W2**: Condo
- **W3**: Condo
- **W4**: Condo
- **W5**: Condo
- **W6**: Condo
- **W7**: Condo
- **W8**: Condo
- **W9**: Condo
- **W10**: Condo

### Costs

- **W1**: Condo
- **W2**: Condo
- **W3**: Condo
- **W4**: Condo
- **W5**: Condo
- **W6**: Condo
- **W7**: Condo
- **W8**: Condo
- **W9**: Condo
- **W10**: Condo

### Remarks

- **Remarks**: Condo
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- **Remarks**: Condo
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- **Remarks**: Condo
- **Remarks**: Condo
- **Remarks**: Condo

### Conditions

- **Condition**: Condo
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- **Condition**: Condo

### Other Conditions

- **Other Conditions**: Condo
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- **Other Conditions**: Condo
- **Other Conditions**: Condo
**PROPERTY LOCATION**
- Name: COUNTRY CLUB
- Way: RD

**OWNERSHIP AND MAILING INFORMATION**
- Owner 1: MOHY DAVID R
- Owner 2: WILLIAM A SANDRI
- Street: PO BOX 760
- City: GREENFIELD
- State: MA
- Zip: 01302

**NARRATIVE DESCRIPTION**
THIS CARD HAS 26.87 ACRES OF LAND MAINLY CLASSIFIED AS RESIDENTIAL

**PROPERTY FACTORS**
- Land Use: 100
- Zoning: R
- Street: 1 PAVED
- Traffic: 3

**SALES INFORMATION**
- Legal Reference: 2181/220
- Sale Price: $8,900
- Adj Sale/Deprec:

**DEPRECIATION**
- Condition: Depreciation
- %:

**OTHER FEAT**
- Utilities: 100
- Architectural: 0
- Bathroom: 0

**CALCULATIONS**
- CONDO DATA
- Res Breakdown
- Last Revision: 01/22/97 9:46A
- Sub Area Detail
- Total Fin Area: 0

**COMMENTS**
- FRONT NOT ON MAP

**ALT. APPROACH**
- Adj Total: 0
- Deprec: 0
- Inc Approach: 0
- Spec Feat: 0

**COMPARABLE SALES**
- Adj Total: 0
- Deprec: 0
- Inc Approach: 0
- Spec Feat: 0

**INCOME APPROACH**
- Market Value: 0
- Assessed Value: 0
- Economic Income: 0
- Reported Income: 0

**SPECIAL FEATURES AND YARD ITEMS**
- Description: YES
- Size: 0
- Unit Price: 0
- Tab: 0
- Sound Value: 0

**Total Yard Items**: 0
**Total Special Features**: 0
Federal Street Site
**MAP**

**LOT**

**CARD**

**GREENFIELD, MA**

**ASSESSMENT SUMMARY**

<table>
<thead>
<tr>
<th>Item</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
<td>1</td>
<td>94</td>
</tr>
</tbody>
</table>

**BUILDING DESCRIPTION**

- Story 1: 94 YARD ITEMS
- Electro: 94
- Insurance: 94
- Fuel: 94
- Kit Rating: 94
- Intre Est: 94
- Eyr Build: 94
- AB Advisor: 94
- % All Clean: 94

**DEPRECIATION**

- Condition: 94
- Depreciation: 94

**SALES INFORMATION**

- Legal Reference: 1509.339
- Sale Price: 10/31/78
- Date Paid: 10/31/78

**INCOME APPROACH**

- Total Yard Items: 11,800
- Total Special Features: 0

**PHILODODGE**

- Date: 05/16/90
- Result: INSPECTED

**ALT. APPROACH**

- Comparable Sales (C):
- Income Approach (I):
- Market Adj Cost: 105,900

**CALCULATIONS**

- 10/31/78
- 05/16/90

**SUB AREA SUMMARIES**

- Code: 94
- Area (S.F.):
- Base Unit:
- Land Cost:
- Unit Price:
- Value:

**CONDO DATA**

- No. of Units:
- Floor View:
- % AC:
- % Spr:
- % Co Val:
- % Open:

**RES BREAKDOWN**

- Last Revision:
- 02/22/94 1:22PM

- SUB AREA DETAIL

- Code:
- Area (S.F.):
- Base Unit:
- Land Cost:
- Unit Price:
- Value:

- OTHER FEAT

- % Bath:
- % Beds:
- % Parking:
- % Fin Area:
- % Total:

- 1/2 Bath:
- +/Bed:
- +/Beds:
- +/Parking:
- +/Fin Area:
- +/Total:

- 3 Beds:
- 3 Baths:
- 3 Parking:
- 3 Fin Area:
- 3 Total:

- 2 Beds:
- 2 Baths:
- 2 Parking:
- 2 Fin Area:
- 2 Total:

- 1 Bed:
- 1 Bath:
- 1 Parking:
- 1 Fin Area:
- 1 Total:

- Studio:
- 0 Bath:
- 0 Parking:
- 0 Fin Area:
- 0 Total:

**PROPERTY FACTORS**

- Factor:
- Description:
- Unit:
- Value:

**LAND SECTION**

- Use Code:
- Description:
- Unit:
- Value:

- Total Acres: 0.540
- Total Square Feet: 23,520

**SPECIAL FEATURES AND YARD ITEMS**

- Total Yard Items: 11,800
- Total Special Features: 0
This card has 0.16 acres of land, mainly classified as residential.

Property Factors:
- Land Use: 100
- Septic: F
- Water: F
- Gas: F
- Street: F
- Pole: F

Land Section:
- Total Acres: 0.160
- Total Square Feet: 6,997

Income Approach:
- Annual Rent: 25,900

Special Features and Yard Items:
- Total Yard Items: 0

Comparable Sales:
- Price: 25,900

Alt. Approach:
- Sale Price: 26,900

Other Features:
- Assessed Value: 24,700
- Market Value: 22,200

Depreciation:
- Condition: 0
- Depreciation: 0

Sales Information:
- Legal Reference: 15091341
- Date: 08/01/77

Building Description:
- Type: 93
- Description: Vacant Land

Other Assessments:
- Prior Other Identification: 109
- Building Permits: 017

Narrative Description:
This card has 0.16 acres of land, mainly classified as residential.
### Property Location

**Address:** 277 Main Street

**City:** Greenfield

**State:** MA

**Zip:** 01301

**County:** N

### Ownership and Mailing Information

**Owner:** Norton Burton C

**Parcel:** 277 Main Street

### ARRIVAL DESCRIPTION

This parcel has 0.20 acres of land. It is currently classified as commercial. The property is a 1 story building built about 1940, having primarily brick exterior, containing potential leasable units. The property has been used as an office building.

### Building and Property Factors

- **Number of Buildings:** 1
- **Total Square Feet:** 65,700
- **Total Acres:** 0.20

### Income Approach

<table>
<thead>
<tr>
<th>Description</th>
<th>Size or Units</th>
<th>Unit Price</th>
<th>Rentable Space</th>
<th>Lease Rate</th>
<th>Gross Income</th>
<th>Total Rentable</th>
<th>Total Income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Comparable Sales

- **Multiple Regression:** $293,780
- **Income Approach:** $293,780
- **Market Adjustment:** $293,780

### Inspection Info

- **Date:** 11/01/91
- **Inspector:** Hayske/Inspec 380

### Building Description

- **Story:** 1
- **Building Type:** Story
- **Material:** Concrete
- **Foundation:** Wood
- **Roof:** Brick
- **Cover:** Flat
- **Type:** Tarp Ravel
- **Air Hi/Low:** Standard

### Prior Other Identification

- **Building Permits:**
  - No
  - Yes

### Special Features and Yard Items

- **Special Features:**
  - Size or Units
  - Unit Price
  - Sound Value

- **Yard Items:**
  - Overall Size
  - Space Used
  - Rentable Space
  - Total Income

### Sales Information

- **Market Price:** $170,000
- **Adj Sale/Descr:**

### Depreciation

<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
<th>Depreciation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Sketch Instructions

**Scale:** 50 ft/1'
<table>
<thead>
<tr>
<th>Property Location</th>
<th>Owners and Mailing Information</th>
<th>Narrative Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>No.</td>
<td>AR No.</td>
<td>Name</td>
</tr>
<tr>
<td>WELLS</td>
<td>1</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Address</th>
<th>ZIP Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>GREENFIELD TOWN CT</td>
<td>01301</td>
</tr>
</tbody>
</table>

**ASSOCIATION SUMMARY**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>Total Assessed Value</td>
</tr>
</tbody>
</table>

**PROPERTY FACTORS**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
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</tbody>
</table>

**DEPRECIATION**

<table>
<thead>
<tr>
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<th>Depreciation %</th>
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<tbody>
<tr>
<td>Total</td>
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**LAND SECTION**

<table>
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<tr>
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<tbody>
<tr>
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**INCOME APPROACH**

<table>
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<th>Code</th>
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<tbody>
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**COMMENTS**

<table>
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**CALCULATIONS**

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</table>

**COMPARABLE SALES**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
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</table>

**ALT. APPROACH**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0000</td>
<td>Total Assessed Value</td>
</tr>
</tbody>
</table>
**Property Location**: Map Block Lot Card
**Address**: GREENFIELD, WI

**Ownership and Mailing Information**
- Name: WELLS GILBERT D
- Address: 30 ORCHARD ST
- Zip: 01301

**Narrative Description**: This card has 0.43 acres of land, mainly classified as commercial.

**Property Factors**
- **Local Reference Date**: 1968/59
- **Sale Price**: 0
- **Adj. Sale / Desc.**: 0

**Land Section**
- **Park Lot**: 186.64, 187.64
- **Total Acres**: 2.3
- **Total Square Feet**: 6,120

**Special Features and Yard Items**
- **Parking**: 0, 0.43
- **Gross Income**: 10,400

**Income Approach**
- **Leased Area**: No
- **Rental Type**: Net

**Alternative Approach**
- **Multiple Regression (A)**
- **Comparable Sales**
  - **Rating**: 15
  - **Price**: 0

**Sketch Instructions**

**Sketch**

**Calculations**
- **Basic SF**: 0
- **Size Adj**: 0
- **Const Adj**: 0
- **Add SF**: 0
- **Plumbing**: 0
- **Fireplaces**: 0
- **HS Flues**: 0
- **Rent Gnr**: 0
- **Heal Syn**: 0
- **Solar HW**: 0
- **Ceil Vac**: 0
- **% Heated**: 0
- **% AD**: 0
- **% Spr**: 0
- **% CoM**: 0

**Comparative Sales**
- **Rating**: 15
- **Price**: 0

**Inspection Info**
- **Result**
- **Code**: SW
- **Av. SF**: 10,400
- **Av. Rating**: 15
- **Indicated Value**: 0

**Building Description**
- **Type**: Building Value
- **Code**: 0
- **Description**: Yard Items

**Previous Assessments**
- **Building Value**: 0
- **Yard Area**: 0
- **Assessment Value**: 0
- **Total Assessed**: 0

**Other Assessments**
- **Electric**: 0
- **Insulation**: 0
- **Fuel**: 0
- **Type**: 0
- **Kg Rating**: 0
- **Int vs Ext**: 0
- **Grade**: 0

**Depreciation**
- **Condition**: 0
- **Depreciation %**: 0
- **Total Depreciation**: 0

**Comparison for Knapp's**

**Sketch**

**Sub Area Summary**
- **Total Area**: 0
- **Area (S.F.)**: 0
- **Total**: 0
Appendix B - Needs Assessment Study
Completed January 24, 1994
GREENFIELD FIRE STATION NEEDS ASSESSMENT STUDY

January 24, 1994

Background

Greenfield's existing fire station was built in 1936 to standards for fire equipment and apparatus which have changed significantly in the past fifty years. Modern equipment is now wider and heavier which has stretched the station's ability to accommodate the needs for the Fire Department. In physical terms the apparatus squeezes through doors which are barely wider than the apparatus and overhead clearances above apparatus are woefully inadequate and substandard. The net result being delayed response time in emergencies and increased potential for damage to facilities and apparatus. Within the building itself the space constraints continue with low headroom and minimal space side to side prohibiting work on the apparatus. Current standards for facilities favor doors on both ends of apparatus rooms for immediate access to each piece of apparatus. This is not the case nor is it feasible with the current facility.

Following meetings with Chief Mackenzie and DPW Engineering Superintendents Larry Petrin, conversations with the Planning Office and review of data provided the town by Metcalf and Eddy in their Water Pollution Control Plant Facilities Plan Final Report, the following needs assessment study was developed. Planning a new facility to meet current and future needs of the town entails consideration of several factors. These include evaluation of current trends, projections for future growth, analysis of growth and development historically and definition of physical needs for the department.

Brief History

Historical population data indicates the population of Greenfield in 1940 (shortly after completion of the existing station) was 15,000. Industry was centrally located with GTD and Millers Falls Tool facilities within walking distance of the central business district. Over the next twenty years the post war baby boom increased the population by 15%. Since 1960 the town population stabilized with modest fluctuations between 18,000 and 19,000. In the 70's, local control of industry was lost with the purchase by larger corporations of both GTD and Millers Falls Tool resulting in the relocation of operations outside of the town. While population stabilized and industry exited, housing starts continued as family size decreased. Commercial development extended along major arteries and the town was bisected by the construction of Interstate 91 and Route 2 By-Pass.

Over these years Greenfield's Fire Protection needs were addressed by the Main Street Station and the Brookside volunteer fire company located in the north end of Country Club Road. The Brookside facility was closed in March of 1990. Since that time the Main Street Station has served as the sole facility.
A Look Ahead

Greenfield's Planning Department has indicated that the town is considering initiatives which will encourage growth in three areas: industrial development in the Industrial Park at Adams Road, adaptive re-use of vacated mill buildings along the Green River south of Main Street, and commercial revitalization of the downtown area. In addition subdivisions for new housing units are approved for the north end of town off of Log Plain Road East; and near the Greenfield Community College. Open space in the meadows (Colrain and Plain Roads) could succumb to development pressure as farming operations become less viable.

Population increases projected by the Franklin County Planning Office through the next decade are expected to be less than 1 percent. Projecting the established trend since the sixties into the next half century would suggest that Greenfield's population is unlikely to experience any rapid growth and will likely remain between 18,000 and 20,000 residents.

Factors affecting Fire Protection

There are several factors which affect the level of fire protection provided by a community. For many years insurance underwriters, governmental agencies and fire service organizations have sought to develop standards for evaluating fire service. NFPA (National Fire Protection Association) appointed a Select Committee to evaluate criteria for service levels of fire departments in 1990. The current rating system used by many communities including Greenfield is a grading system administered by the Insurance Service Organization (ISO). The rating system becomes a basis for establishing primarily commercial insurance rates within a community and may affect residential rates as well. The National Board of Fire Underwriters (Now the American Insurance Association) have issued engineering bulletins for establishing fire department standards, however, the last bulletin was issued in January of 1963. The role of the Select Committee established by NFPA was to provide discussion between the numerous agencies and attempt to develop some consistency in development of standards. The rating system developed by ISO has become the basis for developing a Fire Rating Suppression Schedule. The criteria weighs three areas in establishing a rating. These include water supply, fire department and fire alarm systems. Greenfield was last rated in December of 1992 and received a rating of 5 on a scale of 1 to 10 with 1 being the ideal and 10 being none. The only criteria related to facilities in the grading system has to do with distribution of fire companies. The remaining criteria for fire departments relate to equipment, man power and training.

Geographic Site Criteria

In an optimum situation, ISO suggests, a fire company should be located within 2-1/2 miles of any structure in town. In Greenfield, this would not be easily accomplished without multiple facilities. Therefore, some risk assessment needs to be evaluated in establishing site criteria. The town is divided by railways, limited access highways and a river which create limited opportunities for access by fire apparatus to certain parts of the town. East Greenfield is isolated from the rest of town with Mountain Road
connecting to the east end of Maple Street and Montague City Road extending to the southern end of Deerfield Street. Deerfield Street and neighborhoods to the southwest can only be accessed via the Bank Row, River Street and Washington Street underpasses of the B&M railroad. Western parts of town are accessed by the Route 2 Rotary, Colrain Street and Leyden Road overpasses of Route 91. Northern parts of town are accessed by Country Club Road, Bernardston Road and Adams Road. Prudent planning would suggest coverage should be provided for areas of anticipated commercial and industrial development. This would favor a site located in the vicinity of Federal and Pierce Streets. (See Map 1)

Broader coverage could be provided with a main station and sub-station. Two stations have significant financial implications. It requires some duplication of facilities and equipment. If two stations are considered, a site on River Street would provide coverage for the entire town north as far as the Route 2 By-Pass with a sub-station located in the northern part of town in the vicinity of Severance Street. In essence, re-establishing the Brookside station. (See Map 2) While two stations may appear on the surface to provide a superior level of fire protection, the fact of the matter is that two stations will only marginally provide a better service rating. Fire company distribution accounts for only 4% of a community's overall rating. Increasing fire fighting personnel, for example, would have a greater impact on the service rating than distribution of facilities.

Since multiple stations would not significantly improve the level of fire protection and would require greater financial commitment for facility operating expenses than a single facility, the following program for a new central facility was developed with provisions for expanding staffing levels to include an additional watch. Using general planning and programming requirements for fire stations of similar size, the program outline was generated to determine gross area requirements for the proposed new central station for the Town of Greenfield.

Criteria for the new Greenfield Fire Station

The proposed new facilities for the Greenfield Fire Station will include an apparatus room of 5 bays with drive through access to house equipment, administrative support spaces and dormitories for on-duty firefighters. The program requirements include a projected gross area of 18,330 square feet. The building footprint will be equal to the gross area if a one story scheme is developed to meet program requirements. If the administration/dormitory areas are developed as a two story building element, then the building footprint for the new building could be reduced up to 5,000 square feet. In developing the criteria for site selection several variables have been considered. These include implications of building size, circulation requirements for the vehicles, orientation to the street and zoning requirements.

Emergency Medical Service

The fire department does not currently include emergency medical services within the department. These needs were not included in the program requirements for the new
station. If upon future analysis these services would become part of the fire departments responsibilities then additional facilities would be required either as an addition to the central station or as a separate facility.

Greenfield Fire Department
Greenfield, MA

Program Outline

Current Equipment

Current equipment to be housed in the apparatus room include:

<table>
<thead>
<tr>
<th>Equipment</th>
<th>YR/Make</th>
<th>Length</th>
<th>Width</th>
<th>Ladder Ext.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engine #1:</td>
<td>1976 Maxim</td>
<td>336&quot;l</td>
<td>106&quot;w</td>
<td>60&quot;</td>
</tr>
<tr>
<td>Engine#2:</td>
<td>1988 Pierce</td>
<td>372&quot;l</td>
<td>112&quot;w</td>
<td>60&quot;</td>
</tr>
<tr>
<td>Engine#3:</td>
<td>1993 Pierce</td>
<td>351&quot;l</td>
<td>96&quot;w</td>
<td>20&quot;</td>
</tr>
<tr>
<td>Engine #5:</td>
<td>1982 Pierce</td>
<td>324&quot;l</td>
<td>102&quot;w</td>
<td>60&quot;</td>
</tr>
<tr>
<td>Ladder#1:</td>
<td>1972 Maxim</td>
<td>572&quot;l</td>
<td>103&quot;w</td>
<td>N/A</td>
</tr>
<tr>
<td>Rescue#8:</td>
<td>1971 Ford</td>
<td>312&quot;l</td>
<td>98&quot;w</td>
<td>N/A</td>
</tr>
<tr>
<td>Fire Alarm:</td>
<td>1985 Chev.</td>
<td>235&quot;l</td>
<td>110&quot;w</td>
<td>N/A</td>
</tr>
<tr>
<td>Brush Truck:</td>
<td>1988 Chev.</td>
<td>236&quot;l</td>
<td>78&quot;w</td>
<td>N/A</td>
</tr>
<tr>
<td>Haz-Mat:</td>
<td>1979 Chev.</td>
<td>224&quot;l</td>
<td>102&quot;w</td>
<td>N/A</td>
</tr>
</tbody>
</table>

FACILITIES

1. Apparatus

Apparatus Room 7200 s.f.

5 Bays 20 foot wide by 72 feet deep are required to house apparatus. It is preferred to provide front and rear apron areas for access to bays from either direction. Directly adjacent or included as part of the apparatus room should be:

- Fire Gear Lockers 150 s.f.
- Hose/Equipment Repair 150 s.f.
- Hose Racks/Gear Cleaning 100 s.f.
- Air Charge Equipment 120 s.f.
- Hose Tower 100 s.f.

Sub-total Apparatus 7820 s.f.
### II. Administration

<table>
<thead>
<tr>
<th>Room</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry &amp; Foyer</td>
<td>200 s.f.</td>
</tr>
<tr>
<td>Dispatch/Watch Room</td>
<td>150 s.f.</td>
</tr>
<tr>
<td>Fire Alarm Equipment</td>
<td>175 s.f.</td>
</tr>
<tr>
<td>Offices</td>
<td></td>
</tr>
<tr>
<td>On Duty Officer</td>
<td>150 s.f.</td>
</tr>
<tr>
<td>Fire Prevention Office</td>
<td>150 s.f.</td>
</tr>
<tr>
<td>Admin/Secretary</td>
<td>150 s.f.</td>
</tr>
<tr>
<td>Chief’s Office</td>
<td>175 s.f.</td>
</tr>
<tr>
<td>Drill/Conference Room</td>
<td>250 s.f.</td>
</tr>
<tr>
<td>Public Toilets</td>
<td>225 s.f.</td>
</tr>
<tr>
<td>Meeting/Training Day Room</td>
<td>1200 s.f.</td>
</tr>
<tr>
<td>Kitchen Alcove</td>
<td>200 s.f.</td>
</tr>
<tr>
<td>Vending Alcove</td>
<td>50 s.f.</td>
</tr>
<tr>
<td><strong>Sub total Administration</strong></td>
<td><strong>3075 s.f.</strong></td>
</tr>
</tbody>
</table>

### III. Dormitories

<table>
<thead>
<tr>
<th>Room</th>
<th>Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Lockers</td>
<td>120 s.f.</td>
</tr>
<tr>
<td>Dormitories for 3 to 4 men</td>
<td>3 @ 400 s.f.</td>
</tr>
<tr>
<td>Private Sleeping Rooms</td>
<td>3 @ 150 s.f.</td>
</tr>
<tr>
<td>Toilets/Showers</td>
<td>300 s.f.</td>
</tr>
<tr>
<td>Laundry</td>
<td>50 s.f.</td>
</tr>
<tr>
<td>Exercise/Fitness Room</td>
<td>300 s.f.</td>
</tr>
</tbody>
</table>
The site diagrams demonstrate size requirements based upon the criteria listed above. Each scenario represents minimum requirements to meet the planning criteria. Other than size, the major site selection criteria will be location. A central facility will need access to major cross streets to dispatch equipment quickly to any location in town. Several potential sites, if possible should be identified and evaluated for dimensional suitability, impact the facility will have on the neighborhood and additional requirements such as site lines for oncoming traffic and/or the potential need for traffic signals. Traffic analysis should be performed on the final site to establish the impact dispatching vehicles will have on traffic at neighboring intersections and entrances to the site to assure safe and quick responses.
APPARATUS ROOM FRONTING STREET - 1 STORY SCHEME

MINIMUM LOT SIZE - 245' x 325' (245' x 400' in R Districts)
CORNER LOT - 2 STORY SCHEME

MINIMUM LOT SIZE - 260' x 300' (260' x 350' or 300' x 300' in R Districts)
Greenfield Fire Station

Site Selection Criteria

January 24, 1994

CORNER LOT - 1 STORY SCHEME

MINIMUM LOT SIZE - 300' x 275' (300' x 330' or 360' x 275' in R Districts)
NARROW CURB CUT FRONTING STREET – 2 STORY SCHEME

MINIMUM LOT SIZE – 230’ x 400’
Greenfield Fire Station

Site Selection Criteria

January 24, 1994

230'-0"

OPEN SPACE REQUIRED IN R DISTRICTS

PARKING 12 CARS

PARKING 8 CARS

APPARATUS ROOM

2 STORY ADMIN/DORM WING

STREET

325'-0"

400'-0"

325'-0"

APPARATUS ROOM FRONTING STREET – 2 STORY SCHEME

MINIMUM LOT SIZE – 230' x 325' (230' x 400' in R Districts)
APPARATUS ROOM PERPENDICULAR TO STREET – 1 STORY SCHEME

MINIMUM LOT SIZE – 300’ x 275’ (300’ x 335’ in R Districts)
NARROW CURB CUT FRONTING STREET – 1 STORY SCHEME

MINIMUM LOT SIZE – 245’ x 400’
Bibliography & Acknowledgements:

2. Laurence F. Petrin, Engineering Superintendent, Greenfield Department of Public Works.
3. Terry Anderson, Greenfield Planning Office
4. Margaret Gowan, Metcalf & Eddy, Inc., Wakefield, MA.
7. Special Interest Bulletin No. 315, Fire Department Standards, NBFU (now AISG), c 1963.