

**Space Needs Assessment**  
*for a new*  
**Town of Westborough**  
**FIRE HEADQUARTERS**  
**Westborough, MA**



*January 2012*

**J H**

**JACUNSKI HUMES**

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## **GENERAL INFORMATION**

**Date:** January 2012

**Department:** Westborough Fire Department

**Address:** 42 Milk Street  
Westborough, MA

**Telephone No.:** (508)-366-3040

**Fax No.:** (508)-366-0079

**Primary Contacts:** Mr. Walter N. Perron, Fire Chief  
Mr. Calvin Lawrence, Captain

**Population Statistics:** 18,000 residents  
+/- 40,000 daytime business population

**Community Area:** 21.0 square miles

# **STAFF PROJECTIONS**

## **Personnel – Fire Department**

	<b>Current staffing</b>	<b>20-year projected growth</b>
<b>Administration:</b>		
Fire Chief	1	1
Deputy Fire Chief	1	1
Administrative Secretary	1	1
Fire Prevention Officers	2	3
<b>Total Positions (Admin.)</b>	<b>5</b>	<b>6</b>
<b>Line Personnel:</b>		
Shift Supervisors (Captains)	4	4
Lieutenants	4	4
Firefighters / E.M.T.'s*	25	36
<b>Total Positions (Line)</b>	<b>33</b>	<b>44</b>
<b>Total Staffing:</b>	<b>38</b>	<b>50</b>

\*Note: Fire dispatching currently performed by Line Personnel. 20-year projected growth w/in Firefighters / E.M.T.'s to accommodate firefighters / E.M.T's and dispatching responsibilities.

# *SPACE NEEDS ASSESSMENT*

		<u><i>Square Footage</i></u> <u><i>proposed</i></u>
<i>1. Public</i>		
a.	<u>Vestibule</u>	<u>100</u>
	1. Air-lock vestibule	
	2. Walk off mat	
	3. Automatic opening doors	
	4. Open 24 / 7 / 365	
b.	<u>Lobby / Reception / Waiting</u>	<u>250</u>
	1. Access to Communications	
	2. Access to Fire Prevention Officers	
	3. Public telephone / House telephone	
	4. Public seating for 2-3	
	5. Display case	
	6. Pamphlet rack	
	7. Tackboard / Poster case	
	8. Water cooler	
	9. Writing counter remote from service windows	
	10. Adjacent to Meeting Rooms / Plan Review Room	
c.	<u>Public Toilet Rooms</u> 2 @ 80	<u>160</u>
	1. Handicap accessible	
	2. Male and Female toilet rooms, single fixture required minimum	
d.	<u>Plan Review Room</u>	<u>150</u>
	1. Public access and fire access for plan reviews / interviews	
	2. No windows to Lobby	
	3. Electric door release from Fire Prevention / Public Inquiry Area	
	4. Table seating for six (6)	

## 2. *Emergency Operations Center / Training Classroom*

- a. Location
  - 1. Access by Fire and Police Personnel for training purposes
- b. Emergency Operations Center / Training Classroom 1,000
  - 1. Seating for fifty (50) at movable training tables and chairs
  - 2. Flat floor, hard floor surface
  - 3. Projection screen
  - 4. Independent sound system
  - 5. Lighting on dimmers, varied lighting levels
  - 6. Dual use as Emergency Operations Center - Emergency power  
Radio communications  
Telephone / data lines
  - 7. Movable tables and chairs
  - 8. TV/VCR
  - 9. Coat storage
  - 10. Radio communications remote speaker
  - 11. Portable podium
- c. Furniture Storage 200
  - 1. Storage of movable table and chairs
- d. Audio Visual Storage 100
  - 1. Storage of sound system amplifier head end equipment
  - 2. Rack mounted equipment

## 3. *Training Supplies Storage*

- a. Location
  - 1. Accessible from Training Classroom
- b. Training Supplies Storage 100
  - 1. Storage of training material, manuals
  - 2. Storage of audio-visual equipment

#### 4. *Training Room Kitchenette*

- a. Location
  - 1. Accessible from Training Classroom
- b. Training Room Kitchenette 100
  - 1. Casework storage cabinets
  - 2. Sink / disposal
  - 3. Microwave
  - 4. Refrigerator
  - 5. Coffee maker
  - 6. Service counter

#### 5. *Communications Dispatch Center*

- a. Location
  - 1. Adjacent to Public Lobby
- b. Public Inquiry Public Lobby
  - 1. Desk workstation for one (1)
  - 2. Bullet resistant glass to Lobby, speaker port with microphone
  - 3. Package pass transaction drawer to Lobby
  - 4. Computer workstation
  - 5. Forms storage
- c. Dispatch Center 300
  - 1. Console positions: Two (2) console positions designed for redundancy
  - 2. Fire Dispatching
  - 3. Access control at points of entry
  - 4. Independent HVAC system
  - 5. Lighting on dimming controls / uplighting
  - 6. Bookshelving / Manuals storage
  - 7. Acoustic control on walls and ceiling
  - 8. Tackboard / markerboard
  - 9. Printers / fax machine / copier
  - 10. Monitoring of building CCTV network
- d. Toilet close proximity
  - 1. Handicap accessible
  - 2. Unisex

e. Communications Equipment Room 200

1. E911 radio equipment
2. Radio communications equipment
3. Digital recording devices
4. CCTV head end equipment
5. Access control computer head end
6. Conduits to dispatch center access flooring
7. Dedicated HVAC system
8. Emergency power supply
9. UPS system / surge suppression
10. Plywood backboards and rack mounted equipment

6. *Administration*

a. Administrative Assistant 250

1. Waiting area adjacent for two (2)
2. Coat closet
3. Workstation for one (1)
4. File storage – active files (4 years inventory)

b. Fire Chief 250

1. Workstation for one (1)
2. Credenza
3. Coat closet
4. Conference table seating for six (6)
5. Cable TV
6. Bookshelving
7. Adjacent to Deputy Fire Chief and Conference Room

c. Deputy Fire Chief 225

1. Workstation for one (1)
2. Coat closet
3. Visitor's chairs for two (2)
4. Cable TV access
5. Bookshelving
6. Adjacent to Fire Chief and Conference Room

d. Toilet Room 100

1. Adjacent to Administrative Offices
2. Toilet, Sink, Shower



e.	<u>Conference Room</u>	250
	1. Conference seating for twelve (12)	
	2. Projection screen	
	3. Markerboard	
	4. Cable TV access	
	5. Adjacent for Fire Chief and Deputy Fire Chief	
f.	<u>Work Room</u>	150
	1. Casework storage cabinets for office supplies	
	2. Copy Machine, networked printer / copier	
	3. Fax Machine	
	4. Paper shredder	
	5. Postage meter	
	6. Sink	
	7. Microwave	
	8. Refrigerator	
	9. Coffee Machine	
	10. Work counter	
	11. Adjacent to Administrative Assistant and Administrative Offices, dual use by entire department	
g.	<u>Records Files (Archives)</u>	200
	1. Storage of current and archive records (2-3 years of inventory)	
	2. Secured access	
	3. Adjacent to Administrative Offices and Fire Prevention	

## 7. *Shift Supervisors Offices*

a.	<u>Shift Supervisor – Captain</u>	Four (4) @ 175	700
	1. Workstation for one (1)		
	2. Coat closet		
	3. File storage		
	4. Bookshelving		
	5. Visitor's chairs for two (2)		
	6. Adjacent to Administrative Offices and Conference Room		

## 8. *Lieutenant's Office*

a.	<u>Lieutenant's Office</u>	400
	1. Workstations for four (4)	
	2. Coat closet	
	3. File storage, one (1) per workstation	
	4. Bookshelving	
	5. Visitor's chairs, one (1) per workstation	
	6. Adjacent to Administrative Offices and Apparatus Bays	

## 9. *Fire Prevention Officers*

- |    |   |              |
|----|---|--------------|
| a. | Public Inquiry Area   | Public Lobby |
|    | <ol style="list-style-type: none"> <li>1. Bullet resistant transaction window to Public Lobby, sliding type with package pass</li> <li>2. Computer workstation for one (1)</li> <li>3. Forms storage</li> <li>4. Adjacent to Fire Prevention Officers</li> </ol>  |              |
| b. | Fire Prevention Office  | 400          |
|    | <ol style="list-style-type: none"> <li>1. Workstations for three (3)</li> <li>2. Flat files for plan storage</li> <li>3. File storage</li> <li>4. Bookshelving, manuals and code reference material</li> <li>5. Visitor's chairs, one (1) per workstation</li> <li>6. Plan review counter</li> <li>7. Vision panel to Public Inquiry Area</li> <li>8. Adjacent to Plan Review Room and Public Inquiry Area</li> </ol> |              |

## 10. *Fire Evidence Storage*

- |    |  |     |
|----|--|-----|
| a. | Fire Evidence Storage  | 250 |
|    | <ol style="list-style-type: none"> <li>1. Access control</li> <li>2. Storage shelving for fire evidence</li> <li>3. Ventilated exhaust to exterior</li> <li>4. Adjacent to point of entry</li> </ol> |     |

## 11. *Firefighter's Functions*

- |    |  |     |
|----|--|-----|
| a. | Lieutenant's Bunk Room   | 125 |
|    | <ol style="list-style-type: none"> <li>1. Workstation for one (1)</li> <li>2. Wardrobe locker storage, four (4) total</li> <li>3. Bunk with nightstand</li> <li>4. Direct and indirect lighting</li> <li>5. Adjacent to Locker Rooms and Toilet Rooms</li> </ol> |     |
| b. | Captain's Bunk Room  | 125 |
|    | <ol style="list-style-type: none"> <li>1. Workstation for one (1)</li> <li>2. Wardrobe locker storage, four (4) total</li> <li>3. Bunk with nightstand</li> <li>4. Direct and indirect lighting</li> <li>5. Adjacent to Locker Rooms and Toilet Rooms</li> </ol> |     |

c.	<u>Firefighter's Quarters</u>	<u>Ten (10) @ 100</u>	<u>1,000</u>
	1.	Male and Female: Ten (10) individual bunk rooms	
	2.	Twin size mattresses with nightstands	
	3.	Wardrobe storage lockers, four (4) total	
	4.	Chair	
	5.	Direct and indirect lighting	
	6.	Locate within "quiet" area of department adjacent to Lockers and Toilet Rooms. Accessible to Apparatus Bays	
d.	<u>Toilet / Shower Rooms</u>		<u>500</u>
	1.	Male and Female, handicap accessible design	
	2.	Male showers: Two (2) minimum, individual stall showers	
	3.	Female showers: One (1) minimum, individual stall showers	
	4.	Sink area	
	5.	Toilet area	
	6.	Robe hooks	
	7.	Full height mirrors	
e.	<u>Day Room / Lunch Room / Kitchen</u>		<u>350</u>
	1.	Comfortable furniture, "living room" setting	
	2.	Cable TV access / DVD	
	3.	Operational kitchen w/ range, hood, microwave, sink, disposal, dishwasher, refrigerator / freezer	
	4.	Table seating for ten (10)	
	5.	Coffee counter	
	6.	Locate adjacent to Firefighter's Functions, away from Bunk Area	
f.	<u>Vending / Recycling</u>		<u>80</u>
	1.	Vending machines, two (2) minimum	
	2.	Vending supplies storage area	
	3.	Recycling containers	
g.	<u>Laundry Room</u>		<u>80</u>
	1.	Residential style washer / dryer	
	2.	Counter area with wash sink	
	3.	Adjacent to Firefighter's Quarters	

## 12. *Physical Training Room*

a.	<u>Physical Training Room</u>		<u>400</u>
	1.	Ceiling clearance for weightlifting / free weights	
	2.	Drinking fountain	
	3.	Mirrored wall surfaces	
	4.	Rubber floor surfaces	
	5.	Electrical outlets for stationary fitness equipment	
	6.	Adjacent to locker rooms / apparatus bays for response	

### 13. Apparatus Bays

a.	<u>Apparatus Bays</u>	<u>12,800</u>
1.	Eight (8) double-deep bays required, (20' wide x 40' long per apparatus bay preferred)	
2.	14' wide x 14' high apparatus bay doors at each bay	
3.	120 V. @ each bay	
4.	Exhaust system for apparatus (complete capture and exhaust)	
5.	Trench style floor drains centrally located at each bay with oil and grease entrapment system	
6.	Radio speakers/intercom system/paging/alert tone	
7.	Compressed air overhead with shut down disconnects at each apparatus	
8.	Overhead tank water fill at select apparatus	
9.	Work area for small equipment (axes / extinguishers, etc.) with bench / grinders / vice (tool maintenance station)	
10.	Central vacuum system	
11.	Multiple hose bibb connections (inside and outside bays)	
12.	Pressure washer hookups located in multiple locations with soap solution pickup tube.	
13.	Auto door openers with remotes on all front line pieces	
14.	Markerboard / apparatus status and daily check clipboard area	
15.	Radio charging station	
16.	Networked printer location	
b.	<u>Turn-out Gear Locker Area</u>	<u>500</u>
1.	Lockers for gear storage, 24" x 24" x 72", ventilated	
2.	Total number: Fifty (50)	
3.	Floor drains	
4.	Ventilated	
5.	Located adjacent to Apparatus Bays	
c.	<u>Dive Team Locker Area</u>	<u>75</u>
1.	Lockers for gear storage, 24" x 24" x 72", ventilated	
2.	Total number: Eight (8)	
3.	Ventilated lockers	
4.	Located adjacent to Apparatus Bays	
d.	<u>Cascade Room</u>	<u>150</u>
1.	Cascade fill system for air packs, (SCBA compressor not within room)	
2.	Air pack storage racks and fill station	
3.	Workbench area	
4.	Adjacent to Apparatus Bays	

e.	<u>Decontamination Room / Biohazard Containment</u>	125
	1. Deluge shower and eye wash station	
	2. Floor drain with capture system of runoff	
	3. Containment of bodily fluids	
	4. Cleaning of soiled equipment according to NFPA 1581 standards	
	5. Service sink and drain boards for washing of medical equipment / backboards	
	6. Soiled/contaminated clothing/garment holding area	
	7. Locate adjacent to Apparatus Bay near exterior entry point	
f.	<u>Medical Supply Storage</u>	100
	1. Shelving for medical supplies	
	2. Wire mesh enclosure for controlled access to medication storage area	
	3. Refrigerator	
	4. Ice maker	
	5. Locate adjacent to Apparatus Bay and ambulance	
g.	<u>Washer and Dryer Room</u>	125
	1. Locate adjacent to Decontamination Room	
	2. Industrial sized washer/extractor and dryer for gear	
	3. Directly vented to exterior	
	4. Larger slop sink to pre-wash gear	
	5. Drying racks (coats/pants and boots)	
	6. Floor drains	
	7. Wall dispenser for cleaning soaps and degreasers	
h.	<u>General Storage</u>	300
	1. Storage of hose / hose racks (10 lf @ 3 high)	
	2. Emergency lighting / electric generators	
	3. Portable pumps	
	4. Speedy dry	
	5. Air compressor tools and supplies	
	6. Foam storage	
	7. Haz-mat equipment	
	8. Cleaning supplies	
	9. Protective clothing	
	10. Portable extinguishers	
	11. Emergency lighting	
i.	<u>Gear Supply Storage</u>	100
	1. Protective clothing storage shelving	
	2. Storage of helmets, boots, department issued equipment	

j.	<u>Tire Storage / Bulk Storage</u>	200
	1. Tire Storage Racks	
	2. Waste oil containment storage	
	3. Oil storage containment	
	4. Bulk storage of equipment	
	5. Adjacent to exterior entry point	
k.	<u>Workshop / Fire Alarm Equipment Repair / Light Storage</u>	200
	1. Workbench with vise	
	2. Workstation for one (1)	
	3. Storage shelving for spare parts / general storage	
l.	<u>Toilet Rooms (Male and Female)</u>	175
	1. Handicap accessible	
	2. Toilet / sink / (urinal)	
	3. Exhaust ventilation	
	4. Adjacent to Apparatus Bays	

#### **14. Custodial Services**

a.	<u>Janitor Closets</u>	Two (2) @ 80	160
	1. One per floor (minimum)		
	2. Floor sink		
	3. Janitorial supplies / cart storage		
	4. Equipment storage		

## 15. *Mechanical*

a.	<u>Boiler Room</u>	<u>400</u>
	1. Two boilers (min)	
	2. Dual-fuel burners preferred	
	3. Hot water heater	
	4. Floor drains	
	5. Chimney breaching	
b.	<u>HVAC Equipment</u>	<u>500</u>
	1. Ducted supply and returns	
	2. High efficiency filters	
	3. VAV boxes with DDC controls	
	4. Zoned systems	
	5. Host computer	
	6. Varied locations throughout facility / roof top	
c.	<u>Emergency Generator</u>	<u>300</u>
	1. Transfer switch	
	2. Propane fired generator	
	3. Muffler system	
	4. Day tank	
	5. Acoustic control	
d.	<u>Electrical Switchgear Room</u>	<u>150</u>
	1. Main Distribution Panel (MDP)	
	2. Electrical subpanels	
e.	<u>Emergency Electrical Room</u>	<u>100</u>
	1. Electrical subpanels	
	2. Automatic transfer switch	
f.	<u>Fire Suppression</u>	<u>150</u>
	1. Fully sprinkled facility	
	2. High security sprinklers in high risk areas	
	3. Code designed minimum	
	4. Valve assembly exposed to Apparatus Bays for educational purposes	

## **16. Computer Data Rooms**

- |    |  |     |
|----|--|-----|
| a. | Computer Data Room   | 150 |
|    | <ol style="list-style-type: none"> <li>1. Wall mounted and rack mounted data equipment</li> <li>2. Server location and data wiring head end location</li> <li>3. Desk workstation for one (1)</li> <li>4. Manual storage shelving</li> <li>5. UPS system</li> <li>6. Patch panels</li> </ol> |     |

## **17. Circulation**

- |    |  |                   |
|----|--|-------------------|
| a. | Stairs   | w/in Net to Gross |
|    | <ol style="list-style-type: none"> <li>1. Code required minimum, two per floor</li> <li>2. 48" clear width (min.)</li> </ol>   |                   |
| b. | Elevator   | w/in Net to Gross |
|    | <ol style="list-style-type: none"> <li>1. Key activated / card access to call buttons</li> <li>2. Restricted for public use / public access, staff activated</li> <li>3. Sized for stretcher use</li> <li>4. Automatic recall</li> </ol> |                   |



## **SPACE NEEDS SUMMARY**

<b>Summary Sheet</b>	<b>Square Ft. proposed</b>
Public	660
Emergency Operations Center / Training	1,300
Training Supplies Storage	100
Training Room Kitchenette	100
Communications Dispatch Center	500
Administration	1,425
Shift Supervisors Offices	700
Lieutenant's Office	400
Fire Prevention Officers	400
Fire Evidence Storage	250
Firefighter's Office	150
Firefighter's Functions	2,260
Physical Training Room	400
Apparatus Bays	14,850
Custodial Services	160
Mechanical	1,600
Computer Data Room	150
Circulation	w/in net to gross
<b>Total Net Square Footage</b>	<b>25,405</b>
Net to Gross Factor (1.10 x Apparatus Bay)	1,485
Net to Gross Factor (1.35 x All other Areas)	3,694
<b>Total Gross Square Footage Proposed</b>	<b>30,584</b>

## **EXTERIOR CONSIDERATIONS**

a. Public Parking

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1. Total number of spaces preferred = fifteen (15)
2. Vehicle drop off area
3. Bus drop off area

b. Police / Fire / EMS Vehicle and Staff Parking

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1. Total number of spaces required (fire) = twenty five (25)
2. Motorcycle parking required = three (3)
3. Motorcycle parking on concrete pad
4. Fenced enclosure of staff vehicle areas
5. Restricted access to staff parking

c. Flagpoles

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1. USA
2. State
3. Internal halyard

d. Signs

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1. Department identification
2. Located at roadside
3. Located on building
4. Illuminated
5. Conforms to Local Zoning

e. Lighting

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1. Lighting in public areas
2. Lighting in all parking areas
3. Illuminated walkways
4. Illuminated entry locations
5. Lighting coordinated with CCTV locations

f. Handicap accessibility

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1. Entire facility handicap accessible
2. Wheelchair access to public entry

g. CCTV Cameras

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1. Color preferred
2. Pan -tilt- zoom operation at select camera locations
3. Weatherproof housings
4. Pole mounted away from structure to control points of entry

h. Plant Material

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1. Minimize maintenance
2. Avoid creating hiding places
3. Eliminate large ground cover

i. Trash Storage

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1. Number of dumpsters required = One (1) minimum
2. Dumpster enclosure with gate
3. Concrete pad

j. Snow Storage

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1. Provide snow storage capacity at parking areas

k. Exterior Hose Bibb Locations

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1. Provide varied locations around building
2. Wash location at Apparatus Bays preferred

l. Communications Antenna

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1. Roof mounted antenna

*Serving the Public Safety Community*

J H  
**JACUNSKI HUMES**  

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**ARCHITECTS, LLC**

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