



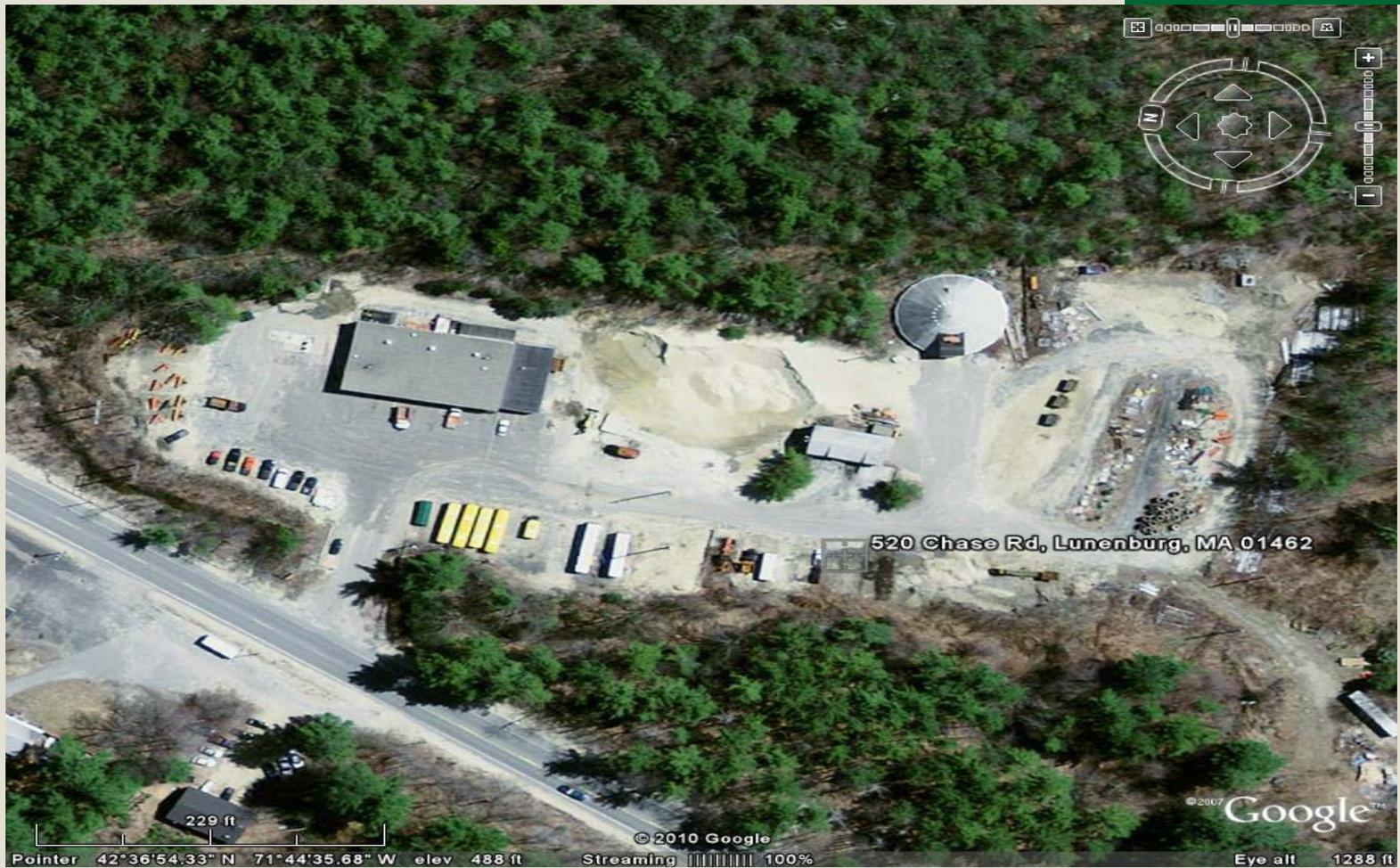
Town of Lunenburg DPW FACILITY STUDY/PROPOSAL

Prepared by: DPW Facility Study Committee
Dave MacDonald, Chair
Steve Powell, Dan Proctor, Jay Simeone & Pat Slattery

COMMITTEE OBJECTIVES

- To evaluate the current site and determine if it is adequate in terms of size and location for current level of operation.
- If the current site is determined to be inadequate, the Committee should detail site deficiencies and identify remedies to the best of its ability.
- Evaluate the current facility to determine suitability for current level of operation.
- If the current facility is determined to be unsuitable, the Committee should detail deficiencies and identify remedies to the best of its ability.
- If the Committee determines that the current facility is inadequate, it should identify possible sources of revenue to make needed improvements. Specific attention should be paid to Green alternatives.

ARIAL VIEW



3/9/2010

ALTERNATIVE LOCATIONS

- After consideration of several possible alternate locations, it was determined by the Committee that the expense of rebuilding what currently exists of the DPW Facility was not economically prudent.

DPW OPERATIONS

The Department of Public Works (DPW) is responsible for the roads, parks, cemeteries, sewer and facilities including:

HIGHWAY

- Maintain 200 lane miles of paved roads, shoulders and sidewalks
- Perform snow/ice operations in winter
- Drainage culverts, catch basins and manholes
- Street signs, street lights, and traffic signs
- Pothole repair
- Traffic signals and striping
- Maintain stock and distribute Town trash bags to area vendors
- Provide fueling station for all Town vehicles

SEWER

- Sewer inspections, maintenance, repairs
- Operation of 10 Municipal pumping stations
- Operation of approx. 15 miles of sewer lines

FACILITIES

- Maintain 11 Municipal buildings
- Schedule and oversee preventive maintenance
- Perform daily repairs as needed
- Review annual contracts and solicit quotes

PARK

- Maintain all athletic fields and playgrounds excluding school properties
- Maintain Town Common and Town Beach

CEMETERY

- Maintain 16 acres of grounds at 2 Cemeteries
- Meet with clients interested in purchasing burial lots
- Maintain burial lot records and provide genealogy research as requested

VEHICLE MAINTENANCE

- Maintenance of all DPW vehicles and equipment, Police cruisers and School vehicles
- Repair and maintain all motorized equipment from lawnmowers to highly technical Police apparatus

PUBLIC SAFETY

It is imperative that the public understand how critical a role the DPW plays within the community. Public works personnel are “first responders” to weather related emergencies year round. Initially it was the DPW who confronted the extreme conditions of the December 11th ice storm, later joined by all public safety employees, residents, the National Guard, and local contractors in what was arguably one of the proudest moments in the history of the community. By controlling significant snow events during the initial two week clean-up of the ice storm, public works allowed for safe passage of the general public along with the continued tireless efforts of so many dedicated individuals, employees and volunteers.

Public Works is responsible for 200 lane miles of roadway and sidewalks, public buildings and grounds, sewer, and drainage lines, and the repair of Police, Highway, Park, Cemetery and School vehicles. All DPW workers are on call 24 hours a day for emergency response to: snow and ice, flooding, sewer backups and pump station failures, downed trees and road obstructions, dead animals, public buildings alarms, HVAC issues, leaks and all utility failures as well as providing assistance to Police and Fire.

CURRENT FACILITY STATISTICS

- Location: 520 Chase Road
- Lot size: 8.75 Acres
- Original structure built: 1970
- Orig. Sq. ft 6160
- 2nd floor mezzanine 1,170 Sq. ft.
- Addition built 1979 (1620 Sq. ft)
- Current 8950 Sq. ft.
- Heat source: Gas and Oil
- Lighting: Fluorescent
- Ventilation: 3 Roof exhaust fans
- Fire Prevention: Handheld Extinguishers
- Roof: Rubber/gravel
- Septic System: Precast concrete leaching slabs



measurements based on exterior dimensions

CURRENT FACILITY USES

- Provide storage for DPW vehicles and equipment.
- Houses the mechanics bay for vehicle repairs.
- Houses the administrative offices of the DPW excluding the Park and Cemetery Divisions.
- Provides a break room and changing facilities for employees.
- Serves as fueling station for all Municipal vehicles.
- Provide storage and distribution of Municipal trash bags.
- Store custodial supplies for all Municipal buildings

CURRENT DEFICIENCIES/INADEQUACIES

- Insufficient and outdated space to support operations
 - Lack of equipment storage
 - Lack of proper administration space
 - Lack of adequate employee support space
- Employee health and safety
 - Facilities lack proper ventilation
 - Facilities lack proper heating/air conditioning
 - Facilities lack proper egress
 - Non-compliant Title V system
- Environmental Compliance
 - Inadequate grading, paving and drainage (Dept. of Environmental Protection)
 - Potential threat to groundwater due to inadequate vehicle storage and run off from vehicle washing
- Code Compliance Inadequacies
 - Built to 1970 building codes
 - Fire and Life safety deficiencies
 - Occupational Safety Health Act and Dept. of Environmental Protection deficiencies
 - OSHA deficiencies 1910.24 (fixed industrial stairs), 1910.38 (exit routes), 1910.1000 (limits for air contaminants)
 - DEP deficiencies
- Security
 - Un-gated facility frequented by residents 24/7 for cardboard recycling and winter sand
 - Inadequate outdoor security lighting
 - Up to 10 School buses parked on property daily plus drivers' vehicles

CURRENT USE: Administrative Offices

- The development of the DPW was intended to bring together the personnel and equipment of various departments in order to provide supervision of personnel, proper management of finances, efficiency of services and the ability to cross train and utilize personnel in all DPW functions. Currently the Park and Cemetery offices remain in separate locations throughout town.
- The “administrative” office space in the current building consists of one large office shared by the DPW Director and Facilities Manager, abutted by and open to an office for the Administrative Assistant which then abutts the Mechanics bay. There is a small office on the second floor for the Highway Manager as well as an enclosure in the garage for the Mechanic.
- The current offices are plagued by excessive noise, poor ventilation and an inadequate heating/cooling system. There is no space available to accommodate Department meetings or employee training.



3/9/2010



10

CURRENT USE: Employee Facilities

- The employee break room is located on the second floor and is inadequately heated/ventilated. It has neither appropriate height requirements or adequate egress. Both of which are serious safety violations.
- There is not sufficient seating to accommodate all employees at any one time.
- There is no rest area for plow operators who may work as many as 36 hours during a snow emergency. Currently they must rest in their own personal vehicles.
- There is a single shower and bathroom.



3/9/2010



CURRENT USE: Fuel Island

- Used by all Municipal vehicles including Police, Fire, School and Senior Center.
- Inadequate vapor recovery system
- Outdated pumps
- No overhead protection from the elements for pumps or employees
- Although not ideal, the current fueling station is compliant (Certificate on file at DPW)



CURRENT USE:

Vehicle Maintenance & Storage

- The current facility was originally built in 1970 to house the Highway Department and its entire fleet of vehicles.
- In 2001 a DPW was formed consolidating the Highway, Sewer, Cemetery and Park Departments. Since then it has expanded to include a Municipal Facilities Department. The current facility now houses 14 vehicles and miscellaneous equipment.
- One bay is used during the work day as a “mechanics” bay with equipment spread throughout the building to allow for as many vehicles to be housed inside as possible.
- During winter months storage of vehicles does not allow passage through the garage. At a minimum, 3 vehicles are parked outside and seasonal equipment (i.e. paving roller and trailer) are housed in a bay on West Street, a small tractor at the Cemetery facility and sweeper and chipper in an outdoor shed.



BENEFITS OF INDOOR STORAGE OF VEHICLES AND EQUIPMENT

- **Improved Emergency Response Time:** When DPW vehicles are stored outside in the winter, response time increases by 15-30 minutes per vehicle. The vehicles require sufficient time to warm up and must be cleared of snow and ice. Problems can occur, including: frozen fuel lines, jelled diesel fuel, frozen air lines, reduced hydraulic oil flow and frozen windshield wiper blades. Also, the sander belts on the de-icing trucks and the lift pistons on plows will not move until hydraulic fluid warms to a proper viscosity. The resulting delays in getting snowplows, sanders, and other vehicles on the road can mean more accidents during snowstorms.
- **Improved Employee Safety:** There is a greater risk of employee injury from climbing up on these large trucks to clear ice and snow. With inside storage, employees can attach plow blades and other equipment in a dry, sheltered area, out of the snow and cold.
- **Improved Productivity:** When vehicles are stored outside, every day the staff must load and unload tools, equipment, trailers and materials that could otherwise be left on the vehicles if they were stored in a secure and covered location. These tasks can reduce productivity by 15-30 minutes a day per employee.
- **Reduced Vehicle Maintenance Costs:** The extreme temperature and precipitation fluctuations of New England weather are one of the primary causes of the premature deterioration of vehicle bodies and components, rubber parts and tires, paint oxidation and drive train components (due to cold/low flow lubrication). Brakes, axles, springs and exhaust systems are significantly compromised by outside storage as well. DPW vehicles can spend as much as seventy-five percent of their useful life parked in the open and unprotected from the elements, waiting to be placed in service. Preventive maintenance is also increased with outside storage due to lubrication fluid and grease breakdown caused by extreme temperatures. The DPW's vehicle fleet is valued at over 2 million. The average lifespan of a DPW vehicle is 15-20 years, depending on the type of vehicle. It is estimated that by storing the vehicle inside, that lifespan will increase by approximately 2-5 years, which will result in future cost savings for the Town.
- **Reduced Environmental Impacts:** Vehicles stored outside are at risk of leaking polluting fluids into the environment and could spill amounts that are reportable and in violation of EPA standards during equipment malfunction. The proposed vehicle storage building will be equipped with floor drains and containment tanks that will be managed in accordance with environmental regulations and will eliminate hazardous spills. Vehicles stored outside must be warmed up for an additional 15-30 minutes in cold weather. This excess idling increases fuel usage, emissions, and our carbon footprint.

WHY SHOULD DPW VEHICLES BE STORED DIFFERENTLY THAN CONSTRUCTION VEHICLES?

- The DPW provides a wide array of public services (removal of solid waste, maintenance of roads, sidewalks and parks etc.) which require that various types of equipment be used during different seasons performing multiple and diverse tasks.
- Unlike construction vehicles, DPW vehicles have to perform a variety of tasks under time pressure. Storing vehicles inside allows for the re-fitting of equipment for the need of the moment and allows workers to get going quickly even when the weather is bad.
- While a trucking company, for example, runs its trucks almost continuously, DPW vehicles are generally used 40 hours/week, except during emergencies, and are parked the rest of the time. Thus, unlike trucking vehicles, DPW vehicles cool down and gather snow pack.
- Vehicles used in the trucking and construction industries generally are not parked in the middle of a residential neighborhood, which is the case for the DPW vehicles. As a result, there is a need to minimize noise and pollution impacts on abutters.
- Finally, the inside storage facility is not simply a place to store vehicles, it is a place where people work. This building is much more than just a shelter or garage, it must have HVAC, drainage, and pumping systems that can handle air, exhaust, fluids, etc. in an environmentally safe manner.

WHY NOT USE ENGINE BLOCK HEATERS INSTEAD OF GARAGE STORAGE?

- Engine block heaters are high amperage devices (much like toaster coils) that warm the coolant of a combustible engine to ensure easier cold weather start up. In this New England climate, a block heater would be needed for about 120 days per year and 16 hours a day (24 hours a day on weekends).
- It has been estimated that block heaters for 28 vehicles could cost as much as \$14,000 per year for electrical energy and actually may be more expensive than heating a 17,000 square foot garage to 45 degrees.
- While this idea may seem feasible, the use of block heaters only solves a piece of the problem since the heaters warm the engine only.
- The hydraulic systems, plows and moveable parts (including cab equipment and doors) are operating under very cold/wet conditions. Snow and ice on the vehicle must be removed under hazardous conditions. The trucks and motorized equipment will still be deteriorating from exposure to the elements. The underbodies and vehicle suspensions will be corroding from excess moisture and deicing chemicals as will most rubber parts including hoses, belts, tires and door seals suffer the effect of extreme heat and cold.

ARE OTHER TOWNS BUILDING INSIDE STORAGE FACILITIES FOR THEIR DPW VEHICLES?

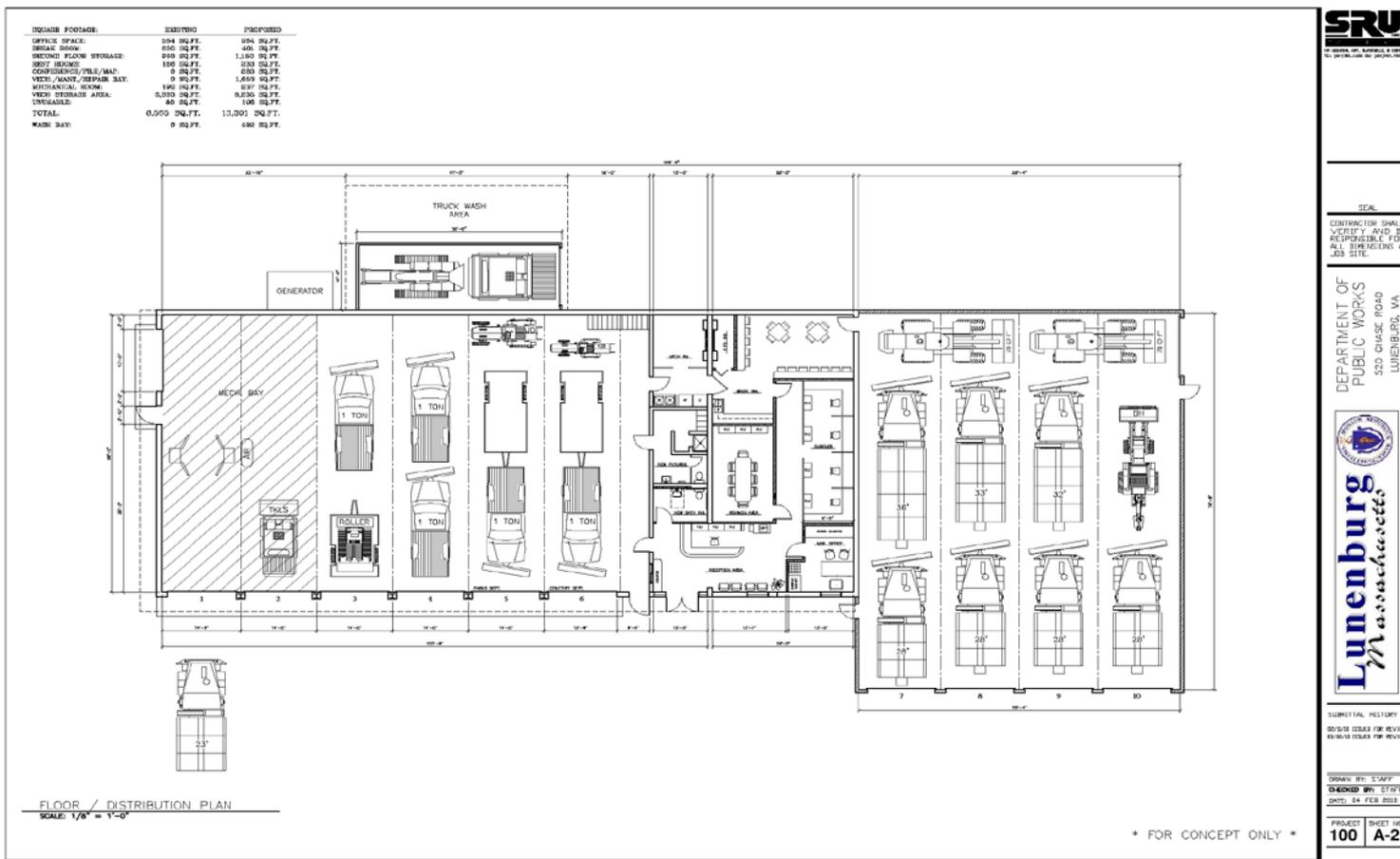
The 2006 American Public Works Association North American Snow and Ice Conference recommended that as part of a community's snow and ice program, "winter maintenance equipment, as well as attachments, should be stored inside. This will aid in a quicker response."

In the last 10 years in Massachusetts, 13 new DPW facilities have been constructed, 4 are under construction, and 23 have been programmed, all of which include inside vehicle and equipment storage.

<u>Town</u>	<u>Total Sq. Ft. of DPW Facility</u>	<u>Sq. Ft. available for Inside Storage</u>	<u>% Total</u>	<u>For all Vehicles?</u>
Lunenburg	7,780*	5,626	73%	No

*First floor only

CONCEPTUAL FLOOR PLAN OF PROPOSED RENOVATIONS (With Vehicles)



CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AT JOB SITE.

DEPARTMENT OF PUBLIC WORKS
520 CHASE ROAD
LUNENBURG, VA



SUBMITTAL HISTORY:
02/25/08 ISSUED FOR REVIEW
04/01/08 ISSUED FOR REVIEW

DRAWN BY: S.W.P.
CHECKED BY: C.T.P.
DATE: 24 FEB 2010

PROJECT SHEET NO.
100 A-2

SPACE ALLOCATION

VEHICLE STORAGE AREA

Present: 6084 Sq.Ft.

Proposed: 8436 Sq.Ft.

- The existing space for vehicle storage becomes reduced by 864 Sq.Ft. as one bay on the southerly end of the building is utilized as office space is rehabilitated. A further reduction of 1624 Sq Ft in the existing garage will be dedicated to a mechanic/repair bay however some space may be utilized for storage on occasion. During severe weather conditions it will be possible to garage nearly every vehicle. The largest area of increased storage is accomplished by a 60'x80' addition to the southerly end of the building. With office expansion this is clearly the most aggressive aspect of the project.

The use of this space will be:

- Store vehicles and equipment
- Make limited emergency repairs should the maintenance bay be unavailable
- Replace cutting edges on plow blades and make minor repairs to plows and equipment, i.e. electrical serving as a workshop area during down times

SPACE ALLOCATION

VEHICLE MAINTENANCE AREA

Present: 0
Proposed: 1653 Sq.Ft.

- Currently there is no area dedicated solely to vehicle maintenance. DPW personnel are responsible for the repair, maintenance, and fueling of police and school equipment as well as every vehicle and motorized tool used by those divisions within the DPW. Replacement tires are stored in the garage as well as a secured trailer.
- Grease, oil, and all other necessary petroleum based fluids are also stored in the existing facility. As some vehicles become more and more computerized there remains a critical need for a safe, efficient dedicated space for vehicle repairs and steel fabrication.
- The proposed area will be designed to accommodate the servicing of equipment in excess of 2.5 million dollars. Overnight storage of otherwise unprotected vehicles will be accommodated by maintenance bays should they be available. The following is a list by department of vehicles and equipment serviced/repaired by DPW personnel:
 - Department of Public Works: 27 Vehicles
Highway, Facilities, Park, Cemetery, Sewer Small Equipment: Tractors, Mowers, Hand Tools
 - Police Department: 10 Sedans
1 SUV
Radar Trailer
 - School Department: 3 Trucks
1 Sedan

SPACE ALLOCATION

OFFICE SPACE

Present: 564 Sq.Ft.
Proposed: 964 Sq.Ft.
* 223 Sq Ft Mtg Rm

- Built in 1970 the current office space was dedicated to the Superintendent, the Administrative Assistant and the Foreman (upper level).
- The consolidation of departments has expanded to include: Highway, Facilities, Sewer, Parks and Cemetery divisions under the umbrella of Public Works in order to share resources and more efficiently serve the community.
- *A small room in this space will be used as a file, map and storage area, a meeting room and a comfortable space for meetings between the Cemetery division Manager and bereaved families.

SPACE ALLOCATION MECHANICAL ROOM

Present: 192 Sq.Ft.

Proposed: 237 Sq Ft

- This existing space accommodated the main electrical service boxes and turn over switches for auxiliary power. Also located in this small area is the compressor which supplies air pressure plumbed throughout the building, as well as the pressure tank for the well supplying potable water. In order to separate this area safely from other space the building of a second wall is required.

SPACE ALLOCATION

EMPLOYEE BREAK & TRAINING ROOM

Present: 200 Sq. Ft.

Proposed: 401 Sq. Ft.

- The existing area is on a raised level above the garage, and contains many code violations and safety regulations. This is a place for coffee breaks and lunches but cannot accommodate the entire staff at one time. Since the ceiling is just over 6 feet and the area is small DPW personnel are forced to rest in their personal vehicles or the plow trucks themselves during extended winter events. These spartan-like conditions do not allow for proper rest over an extended time create a dangerous level of fatigue.

SPACE ALLOCATION

EMPLOYEE RESTROOMS

Present: 186 Sq. Ft.

Proposed: 233 Sq. Ft.

- The ladies facility will be expanded to ADA Requirements. Current area is cramped with the switch for overhead lighting in an adjoining closet and the on/off switch for the exhaust fan at the entry door to the main office.
- The men's room will be renovated to include new fixtures. Bathroom ventilation currently flows into other areas within the building.

TRUCK WASH

- Due to the fact that the DPW facility is near wetlands and is on a septic system, the use of a closed washer recycling system is recommended.
- The system works similar to a pool filtration system, cleaning and reusing the water
- No wastewater permit is required.



EXISTING TRAILERS

(PORTABLE CLASSROOMS)

■ Why not use trailers from the Middle School for office space?

The Town owns two trailers which are now located at the Turkey Hill Middle School. These trailers were used as portable classrooms. At the present time they are being used for storage. The trailers were manufactured in 1996 and are now 14 years old. These types of trailers are mostly used in a temporary situation, i.e., construction, portable offices, etc. They are meant to be **temporary not permanent**. To relocate these trailers from the present site and set up at the DPW lot would require the following:

■ Foundations	\$14,352.00
■ Labor to set units	\$391.00
■ Connect fire alarm	\$603.00
■ Electrical connections	\$4,566.00
■ Install oil tank	\$420.00
■ Relocate units	\$5,067.00
Subtotal	<u>\$25,399.00</u>
10% cont.	\$2,540.00
Total	<u>\$27,939.00</u>

This price does not include restoration of existing site. Additionally, the trailers are not in compliance with ADA and are not well insulated. They would have to be modified or remodeled for an office set up to handle current building codes. It is our recommendation to sell these trailers and NOT use them as part of any long term plan.

ANTICIPATED PROJECT COSTS

CORE/ADMINISTRATION BUILDING

2146 Square Feet

\$103,455.00

\$482.00 Per Square Foot (PSF)

NEW ADDITION

4688 Square Feet

\$466,848.00

\$100.00 PSF

EXISTING BAYS (Includes truck wash)

6286 Square Feet

\$200,981.00

\$320.00 PSF

SITE WORK

\$120,500.00

ARCHITECTURAL/ENGINEERED DRAWINGS

\$100,000.00

TOTAL PROJECTED COST

\$991,784.00

Total Square feet = 13,100 \$75.71 PSF

PROJECTED COST SAVINGS/REVENUE

- Sale of current Park office located at 23 West Street based on a current value of \$104,700 minus \$12,500 for demo of current structure and a possible \$20,000 for hazardous material cleanup if necessary (Net \$72,200)
- Indoor storage will extend the life span of the Town's 2+ million dollar fleet of vehicles and lower maintenance costs resulting in future savings
- Less idling of vehicles because they are stored outside will mean less fuel used.
- Project will incorporate energy efficient and sustainable building components resulting in utility cost savings
- Completion of necessary improvements will allow the Town to avoid the cost of penalties for environmental violations that currently exist
- Indoor storage will increase employee productivity by 10-15 minutes at the beginning and end of day

RESOURCES/WORK SITES

- Westonandsampson.com
- Massachusetts Building Code M.G.L. 148.26g Chapter 508 of the Acts of 2008
- Townofchelmsford.us/Public-Works.cfm
- Ci.lexington.ma.us/DPW
- Townofpaxton.net
- Capitollight.com
- [Lunenburgonline.com/stormwater managementplan](http://Lunenburgonline.com/stormwatermanagementplan)
- Americanpublicworksassociation.com
- Lunenburg water district
- Googlemap.com
- Carbtrol.com
- Spaceray.com
- Osha.gov
- Dep.gov
- Unitil.com/rebate
- Edsesignservice.com
- Fwwebb.com