

NEW HIGHWAY GARAGE

FEASIBILITY STUDY

Prepared for the

TOWN OF HADLEY

BOARD OF SELECTMEN



Prepared by the

HADLEY HIGHWAY GARAGE FEASIBILITY STUDY COMMITTEE

August 2006

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I. INTRODUCTION

The Town of Hadley's existing Highway Garage Complex is comprised of an 8,100sf garage building, two "temporary" office trailers, a fuel island and three salt sheds on a site of approximately four acres shared with the town's Waste Water Treatment Facility.

The Town commissioned the engineering firm of Dufresne-Henry to perform a study of the current and future needs of the Highway Department and to prepare a Study Report with their findings and recommendations.

Upon receipt of the Dufresne-Henry report in December 2005 the Board of Selectmen initiated a call for local volunteers to form a Highway Garage Feasibility Study Committee to assess the report's findings, and report back by June 2006 to the Board of Selectmen:

Joyce Chunglo, Chair
John Connor
Gerald Devine
Kate Nugent
Brian West

Town Administrator, David Nixon, issued marching orders to this committee:

James Maksimoski, Chair
Mark Dunn, Secretary
Pat Kelleher
Joseph Lanzafame
Pete Salvatore

to use the Dufresne-Henry report as a springboard in discussing the needs for a new or renovated garage, to explore design alternatives and to recommend construction options with timeframe, probable cost and possible funding methods.

II. EXECUTIVE SUMMARY

Following comprehensive investigations and discussions of all matters relative to the needs for a safe, reasonable and functional highway department complex the Highway Garage Feasibility Study Committee is pleased to present the following recommendations to the Selectmen of the Town of Hadley.

The recommended scheme would maintain the existing garage building for basically vehicle storage, relocate the two small salt sheds, maintain the existing large salt shed and fuel island, and move all department functions into a new structure. A new pre-engineered metal building would be constructed on the existing site (see Plan Sketch in Appendix B) with a 50' x 70' maintenance garage, a 20' x 70' wash bay and a 22' x 50' administrative wing. The new building would then be comprised of a 3,500sf garage, a 1,400sf wash bay and a 1,100sf administrative wing for a total of 6,000sf.

The estimated probable costs for this work totals \$1,268,782 (see the Preliminary Budget Estimate in Appendix C).

The committee also unanimously recommends that the Town investigate acquiring additional land adjacent to the existing highway complex in order to allow for probable future growth or modifications due to changing technologies or town needs.

III. COMMITTEE FINDINGS

The committee began by reviewing the Dufresne-Henry study, dated December 2005. The Committee questioned various aspects of the proposed design and the proposed budget. The proposed designs described two alternatives or options. Alternative #1 was described as demolishing the existing exterior masonry bearing walls, raising the existing roof to provide a 32 foot high ceiling, supporting the old wood roof with a new steel framing system, and extending the raised roof lines down on either side for full length additions on either side of the more than doubling the footprint.

Alternative #2, which the designers recommended, called to demolish the existing building down to the ground, but retain the existing floor slab and foundations below. It then proposed to erect a new steel framed garage at the same footprint proposed in Alternative #1, but with a new low-sloped metal roof vs. saving the old pitched shingle roof structure. This had a more moderate interior clear height of 22 feet, but still had (2) rows of interior steel columns (as in Alternative #1) which would inhibit flexibility and access between bays.

The overall budgetary strategy was discussed in light of the Town's current economic conditions and priority projects in the foreseeable future (e.g., the schools' expansion projects). It was agreed that the solution should be as economical as feasible and still meet the long term needs of the Highway Department which the Committee is anticipating as twenty to twenty-five (plus) years.

The committee then wished to get familiar with the existing facility, find out from the everyday users what the operational deficiencies were, and determine what the real needs were. The Committee met twice with mechanic, Tony Lastowski, to get user input on the deficiencies, concerns, needs and desires. The Committee agreed the existing building is sturdy and in good condition although space is very cramped. The two small service bays are tight and make it difficult to jockey vehicles around. The current hoist lacks adequate capacity and range of travel for engine or transmission removals or major services. The vehicle storage end of the garage building is not adequately sized for today's vehicles and vehicles can get hit in the tight maneuvering required to get all the vehicles in and out of the two overhead doors. The "temporary" office spaces in the attached trailers are lacking in meeting space, access for the public and in general, the office spaces are less than efficient and professional. There is not a good way to wash vehicles and comply with the current environmental requirements. Access and mobility around the yard is tight and is especially problematic in the winter with the crossing traffic patterns of the plows/sanders, town vehicles fueling, public access to the residents' salt shed, and the sewer plant operations (including regular visits by a 55' tractor-trailer/tanker).

Needed improvements include better office spaces with separate toilets for the offices/public and the garage; better vehicle service space with a two-directional bridge crane; more protected vehicle storage/parking with better access; a compliant vehicle wash bay adequate to handle larger vehicles such as the trucks and the school buses;

proper showers and plumbing for the garage; and ultimately more land to provide proper clearances and access for the various operations on site.

The Committee researched a similar facility in Sunderland – speaking with their staff and the contractor regarding their facility design, their fuel tanks and their construction budget.

Due to its age the structural masonry walls were assumed to be minimally reinforced (by current codes). If the building is to house more than vehicles then it was clear that it would require considerable improvements on its heating, ventilating, plumbing and electrical distribution systems. These expenses would easily trigger current state building code requirements to bring the entire building up to compliance with current codes, and the structural reinforcing to resist lateral (earthquake) forces alone would drive the costs beyond what the committee felt the town would reasonably consider the best value for the expenditure. This understanding then set forth the premise that the existing building (with minimal improvements) offered a good value as a shelter for protecting the town's investment in vehicles.

The necessary administrative and support spaces are currently scattered through two separate trailers and spaces in the existing garage unprotected from the dirt, sound and fumes of the maintenance bays. The committee looked at the benefits of consolidating these spaces into a more efficient, cohesive, safe and presentable location. Since the maintenance bays require a higher ceiling than the existing building can accommodate, it was concluded that a new structure would be required for at least that function. Envisioning the west end of the existing building being vacated by the maintenance functions, the committee considered this area for consolidating the administrative and support functions into one location on one level. But here again, quick estimations of the costs to provide the minimal code required levels of HVAC, plumbing and electrical work for the offices and support spaces (i.e., toilets, lockers, etc.) would exceed the code's threshold (based upon a percentage of the existing building's assessed value) and trigger the costly full code compliance. Therefore it was concluded that a new structure should house the maintenance bays and administrative/support areas at a minimum.

The end-users noted the need to meet current codes in how the town's various departments' vehicles are washed. Due to environmental concerns the vehicle washing will need to be an interior function where the runoff can be controlled, contained and directed to a new oil/water separator prior to discharge into the town sewer system.

As the site was considered for the best use/configuration and possible location of a new structure, the committee evaluated the benefits and liabilities of the current fuel island on the site. The purchase of a new fuel tank accounting system had already been recommended to the town. The usefulness of the existing tanks & pumps, the ideal size of possible new tanks, or the potential financial benefits of outsourcing the entire fueling operation (as many towns do) via departmental credit accounts at local gas stations were all considered. The committee researched (a) the latest cost records for buying fuel on a daily basis at local stations vs. the county bulk discount system for bulk purchases as is

currently employed, (b) the fueling volume and timing (e.g., 24/7 for police cruisers and snow plows), and (c) the split between gas and diesel usages. Continuing with a fueling operation was deemed advantageous. Then weighing the risks of going to smaller tanks (e.g., running out of fuel, increased chance for spills and environmental impact due to more frequent deliveries, etc.) it was decided that if the town chose to or had to replace the existing buried fuel tanks with new aboveground tanks then (2) 2,000 gallon tanks (1 gas and 1 diesel) were found to be the optimum size. However, as there is no foreseeable concern with the underground fuel storage tanks then it was deemed best to keep them, as their size (2 – 10,000 gallon tanks – 1 gas, 1 oil) affords the town a considerable discount on fuel purchases due to the large fuel delivery sizes.

The committee evaluated the existing site constraints while imaging the needed expansion. The committee took key existing site measurements and generated a quick site sketch in CADD with the existing facilities drawn to scale. Three diagrammatic building sizes were overlaid on the site for discussion. We laid out possible site configurations with the existing elements remaining, showing potential sizes and locations for a new building, and maintaining adequate access and turning radii for the range of vehicles that use the site (including sludge tractor trailers servicing the Sewer Plant). The committee agreed that if not now, then the town should certainly be encouraged to acquire additional adjacent parcels of land when available to allow for probable future growth or modifications due to changing technologies or town needs.

The height requirements for the new structure were discussed with the end-users. It was thought prudent to allow for 90% of the use scenarios and not go excessively high to accommodate rare situations (e.g., when a dump's bed cannot be lowered to enter the building). Therefore we recommend allowing for 14 foot high overhead doors with the eaves height around 18 to 20 foot high. A low-sloped metal roof was assumed for economies and control of building height. Tony indicated that having drive-thru bays for his work area was not necessary, but was imperative for the wash bay.

Feedback on the committee's developing scheme was sought from the end-users as well as the Building Inspector. Tony indicated that a new building configured at 50' x 70' would adequately allow for his current and foreseeable future maintenance needs. Tony also added that a 20' x 70' wash bay would allow for a segregated wash bay long enough to close the doors around the larger vehicles, including a school bus. This provided for a 70' square facility which was manipulated on the existing site for the optimal access between the existing structures. The administrative and support areas would be best clustered together at the front of the building (with parking for the public and staff immediately off the street.) The administrative area would include offices for the highway superintendent, the highway foreman and the town mechanic, plus a meeting room, a secretarial workstation, a break area, accessible toilet rooms, a utility room and a storage room. The Committee planned this area at approximately 22' x 50', or 1,100 square feet. It was agreed that this area need not be the same height as the garage, but could save by being a lower shed-roofed section on the west side. The recommended scheme would then have a 3,500sf garage, a 1,400sf wash bay and a 1,100sf administrative wing for a total of 6,000sf.

Mechanical systems were discussed and it was recommended that the toilet rooms each have a shower for the employees, the administrative wing should have its own economical ducted HVAC system, the garage should have ventilation per code and radiant or unit heaters to maintain an ambient temperature of roughly 55⁰ to 60⁰F, while the wash bay should have heating as required to maintain a minimum temperature of 45⁰ to 50⁰F in order to avoid freezing the water and drain lines. The wash bay drains will need to go into a new oil/water separator, and those drains should be easily maintainable to prevent clogging from the dirt, sand, calcium, oil and grease build-up.

Improvements to the existing building (such as one or two additional overhead doors) were recommended to be included as add alternates in order to price them, but not necessarily commit to the work on the existing garage in case the costs exceed the thresholds discussed earlier in this report.

APPENDIX A

Existing Facility Photographs



Office Trailers and Garage



Garage, Sewer Plant, Fuel Island and Salt Sheds



Garage bay, office space and bath room beyond.



Service bay with hoist, tools, parts and committee members



Lift/service bay



Cramped interior parking

APPENDIX B

Drawings/Sketches

APPENDIX C

Preliminary Budget Estimate

Highway Garage - Preliminary Budget Estimate

Description	Quantity	Unit Price		Total Cost
Garage Area (sf)	3500	\$ 150	\$	525,000
Wash Bay Area (sf)	1400	\$ 150	\$	210,000
Office Area (sf)	1100	\$ 175	\$	192,500
Concrete Work (cu yd)*	208	\$ 100	\$	20,789
Equipment Allowance	1	\$ 80,000	\$	80,000
Site Work	1	\$ 75,000	\$	75,000
Subtotal			\$	1,103,289
Engineering	1	15%	\$	165,493
Estimated Construction Total			\$	1,268,782

Assumes 6" thick slab for garage area, 4" thick slab for office area.

*Assumes 5-foot high 2-foot thick abuse wall in garage area

Estimate reflects 2006 construction. No contingencies included.

No funds carried for improvements or modifications to the existing garage.

APPENDIX D

Study Report (by Dufresne-Henry)

The original Report by Dufresne-Henry is hereby attached by reference and may be viewed upon request at the Hadley Town Hall.