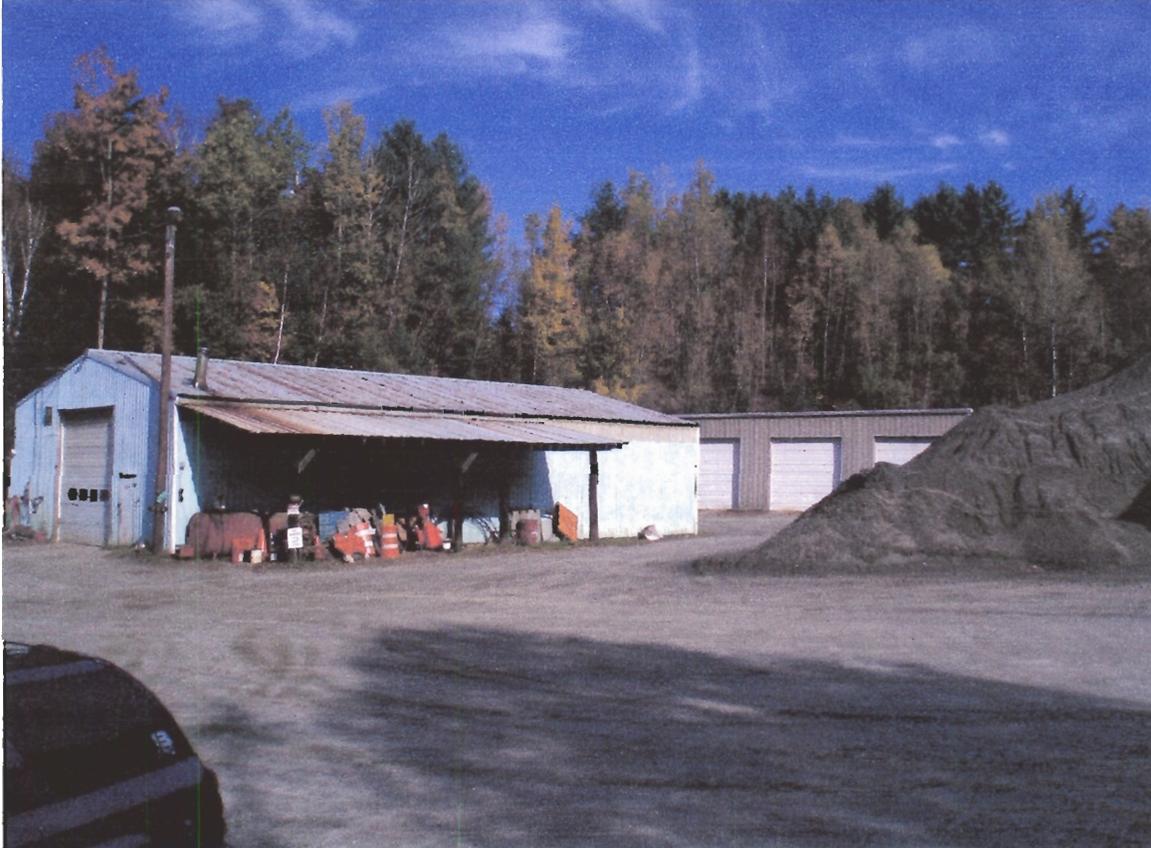
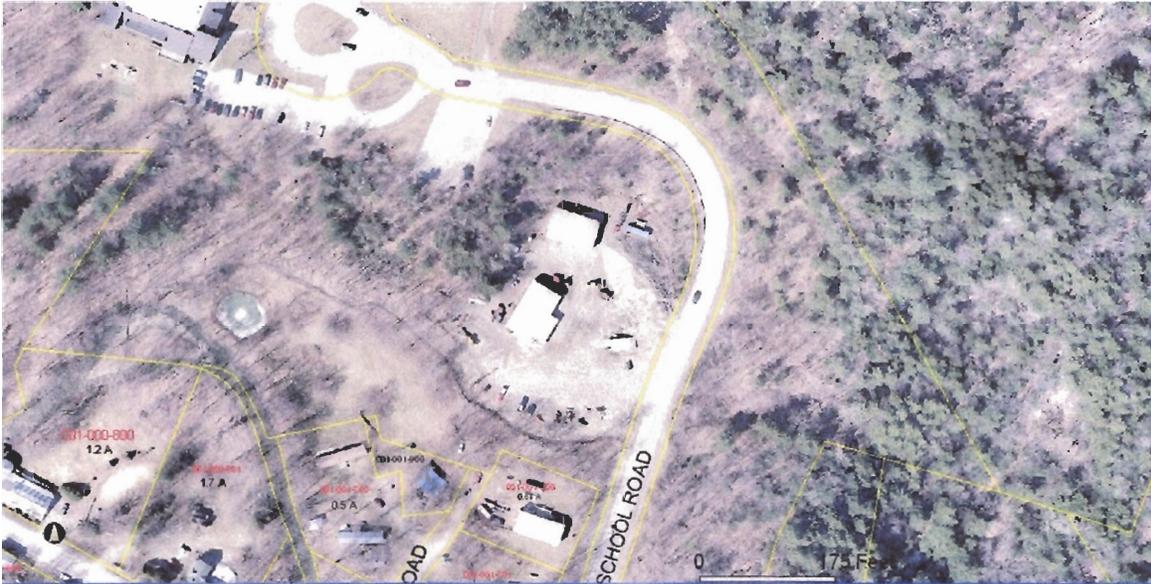


Town Garage Report

Warren Planning Commission



TOWN OF WARREN

MUNICIPAL BUILDING

PO BOX 337

Warren, Vermont

05674-0337

Planning Commission

802-496-2709, ext 28

May 8, 2007

Selectboard

Warren, VT 05674

Re: Warren Town Garage Report

We are pleased to submit this report regarding the Town Garage. In early 2005, the Selectboard asked the Planning Commission to develop a plan to correct deficiencies and provide improvements to the Town Garage and also to consider alternative locations for the Town Garage. Most of the deficiencies had been documented by the Vermont Agency of Natural Resources after inspections in May, 2003 and October, 2004 (see letters in Appendix A and B). A basic history of the project follows.

The Planning Commission inspected the Town Garage, met with members of the Road Crew and confirmed the list of requirements (see Appendix C, Notes, dated March 19, 2005). A questionnaire was created for the Road Crew to use to document their needs (see Appendix D). The Planning Commission then visited other garages and gathered information – including Hartland, New Haven, Bolton, and Waitsfield – to help formulate some ideas.

The Planning Commission met with the Selectboard on July 19, 2005 to present four preliminary options for feedback (see Document, Appendix E). The Selectboard requested the Planning Commission continue the project in more detail and to create a plan that could be implemented in stages to spread out the costs, using town land if at all possible. At that meeting the Planning Commission told the Selectboard that the only viable locations for the Town Garage were either its current location or directly across from there on School Road and that there was no good alternatives on any other town owned land. The Selectboard confirmed the list of requirements (both “musts” and “wants”) that had been documented and agreed the site across the street from the Town Garage on School Road should be considered. The Planning Commission was asked to focus on fixing the safety, environmental and facility issues, and then to create a plan for the “ultimate” long term solution for the Town Garage. The Selectboard also agreed that it would be necessary to hire some expertise to assist the Planning Commission.

At the July 19 meeting the Selectboard also agreed to the Planning Commission’s recommendation to invite Vermont OSHA in to inspect through their WorkSafe program to make sure that all potential deficiencies with the facility were identified. VOSHA did visit on August 30, 2005. Their inspection found a few more minor operational items that have been corrected (see Notes from VOSHA visit, Appendix F).

The Planning Commission applied for and received a grant in fall of 2005. This grant was supplemented with funds allocated in the Town’s 2006 budget resulting in a total of \$ 13,000 that was available. After the 2006 budget was approved by the voters, the Planning Commission issued an RFP that required multiple alternatives to be studied and required each alternative to include a site plan, building designs, a master implementation plan (utilizing a phased implementation approach) and a preliminary cost estimate, including life cycle costs.

Two bids were received and after interviews the Planning Commission selected Sellers and Company, Architects and Town Planners, to perform the study.

Working with the Planning Commission the Sellers firm considered three options: Option One would use the current site, with all new efficient concrete buildings; Option Two would create all new concrete buildings on the site across the road; and Option Three would be a combination of upgrading existing buildings, with some new steel facilities. The Sellers firm worked closely with the Road Crew and made several progress reports to the Planning Commission. The study was finished in December, 2006 and cost \$ 7,000 of the \$ 13,000 allocated. (See Drawings, Appendix H and Cost Analyses, Appendix G)

This report is organized into four parts: (1) background information on the requirements (2) description of the alternatives considered, (3) an analysis of each alternative, and (4) the Planning Commission's conclusions and recommendations.

As will be explained in more detail below, the Planning Commission believes the best alternative is a new, operationally efficient, concrete structure built at another location. The next best alternative is the same concrete structure built in phases on the present location. The least desirable alternative is a combination of new and old steel buildings in the current location. It is important to note that the Planning Commission has based this decision on a life cycle cost analysis. While the initial capital costs of a concrete structure are higher than a steel structure, over the life of the buildings concrete actually has a lower cost.

After receiving significant input at the Planning Charrette and considering this further, the Planning Commission believes better locations for the Town Garage would be either on the Bobbin Mill property, or the Summit Ventures (i.e. Sugarbush) property adjacent to the town owned Aldeborgh / Roe parcel by the Kingsbury Bridge purchased by the Town recently. After the Town Garage is relocated, the current property could be used to accommodate affordable housing – as an extension of the Luce Pierce Road neighborhood. It may also be possible to put some limited housing across School Road from the Town Garage site. Sales of the house sites could help offset the cost of relocating the Town Garage.

We would be pleased to discuss these recommendations with you at your convenience. Sellers and Company could also present their plans to you.

Warren Planning Commission

John Donaldson
John Goss
Mike Ketchel
Donald La Haye
Lisa Miserendino
Nick Morehouse
Jim Sanford

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I. Requirements

Working with the Road Crew, the Planning Commission determined the requirements for the Town Garage that would provide necessary environmental, safety, and certain facility enhancements in the short term and additional enhancements necessary to satisfy future needs. These requirements listed below were presented to the Selectboard on July 19, 2005 and approved.

“MUSTS” - criteria that any alternative must meet

- 1- Containment area for any and all above ground oil storage
- 2- Fix improper wiring, inadequate ventilation, and improper lighting
- 3- Remedy roof leak in Gray Building & add emergency exit
- 4- Address surface water runoff from salt storage
- 5- Eye wash facility
- 6- Improved floor drain system – separate spill containment and snowmelt (will be required in the future)

“WANTS” - criteria that are desirable

- 1- Larger and separate vehicle maintenance area (with separate drainage holding tank)
- 2- Larger storage facility for vehicles & equipment (school buses too??)
- 3- Employee break room & updated bathroom (& shower?) & office area
- 4- Storage facility for sand/salt
- 5- Ability to gate all or part of the property
- 6- Improved layout of facilities and parking space (provide room for other town facilities?)
- 7- Cost effectiveness – capital and operational
- 8- Satisfy future growth needs
- 9- Have support of public and road crew
- 10- Aesthetically pleasing
- 11- Improved yard – grade and surface

NOTE: As of the present time, many of the “Musts” above have already been implemented. Above ground fuel storage of has been eliminated. Necessary fuel is being purchased as needed. Most of the wiring and lighting issues have been addressed. An eye wash facility has been provided. In addition, the operational issues identified at the VOSHA have been corrected. The two outstanding items that need to be addressed the surface water runoff and spill containment from the servicing of vehicles. Our original estimate given on July 19, 2005 of \$ 50,000 to \$ 60,000 to create an improved salt storage facility is probably still valid. It would also be possible to section off a service area in the blue building with a bulkhead or wall for \$ 3,000 to \$ 5,000 to deal with spill containment, even though this might create operational difficulties.

II. Description of alternative plans considered

Three alternative plans, described below, were studied. Each alternative includes the following common elements: 1) a separate heated maintenance bay with a separate floor drain system for collection of wastes, 2) heated storage space of 20' by 60' for each of 9 vehicles (5 trucks, 2 graders, 1 loader and a spare), 3) a employee facility that includes an employee break room, bathroom with shower, office area and storage (approximately 300 sq. feet in Option One and 1500 sq. feet in Option 2), and 4) a new concrete /wood storage building for sand and salt, similar to the buildings at the state garage in Waitsfield. The salt storage portion would be 60' by 20'. The sand storage portion would be 50' by 150'. They would be tall enough to facilitate dump trucks being able to back into the space to dump material. The new salt storage facility will solve the problem of surface water runoff. By keeping the sand under cover, the town would be able to purchase 40% less sand each year which will pay for itself in several years. Each option also requires that the underground over road fuel tank has to be relocated. Each of the three alternatives provides the necessary facilities that satisfy the requirements listed in Section I.

Option One.

1. Option One uses the existing site for the placement of concrete buildings to serve as a garage and central employee area. The 13,100 sq. foot concrete structures are built into the hillside facing the south, earth covered for insulation and utilizing solar collectors on the roof. Approximately 1200 sq. feet is needed for a separate vehicle service bay. Rather than build this new, the 2800 sq. foot blue steel building will be moved and reused for this purpose. A new concrete/wood sand and salt storage will be built. The Gray steel building will not be needed and could be moved to the school and reused as bus storage. The facility could be built in phases. The estimated cost, with or without phasing, is \$ 1,496,542 (see Appendix G-1, Capital Costs and G-2, Breakdown of Phases).

a. Phase One includes moving the existing blue steel building for use as a garage and service bay and building the concrete/wood sand and salt storage. (See Drawing A1). The cost of this phase would be \$ 563,083.

b. Phase Two includes adding four concrete bays (each 20' X 60') on the west side. (See Drawing A2 or A3 which present two different approaches). The cost of this phase would be \$ 329,997.

c. Phase Three includes removing the gray building completing the remaining concrete buildings to be used as the employee area and for the additional garage bays. (See Drawing A4). The cost of this phase would be \$ 603,463.

Option Two.

Option Two uses the site across School Road from the existing site for the placement of a slightly different and smaller configuration of concrete structures to serve as a garage, employee area, and service bay. This options uses a new concrete service bay that is 60' by 20', rather than re-using the large blue building for this purpose. Due to the different building configuration the employee area is smaller than in Option 1. This accounts for the smaller total size, i.e. 12,100 sq. feet. The concrete buildings are built into the hillside facing the south, earth covered for insulation and utilizing solar collectors on the roof. A new concrete/wood sand and salt storage will be built. A new well will be drilled and wastewater tied into municipal sewer. The existing site may then be developed as a residential neighborhood. The blue building will be sold or scrapped and the gray building could be moved to the school and used as bus storage. The facility could be built in phases. (See Drawing B) The estimated cost, with or without phasing, is \$ 1,434,857 (see Appendix G-1, Capital Costs and G-2, Breakdown of Phases).

a. Phase One includes building the new sand/salt storage for use while the existing site continues operation. The cost of this phase would be \$ 408,750.

b. Phase Two includes constructing the entire concrete structure for garage bays and building the culvert to contain the on-site stream, drilling a well and tying into municipal sewer. It might be possible to break this Phase into several steps to spread out the costs, for example, build portions of the structure at a time. However, this additional phasing might cost more to do in steps. Also, this would delay the time for the existing Town Garage to be decommissioned entirely and the land reused. The cost of this phase would be \$ 1,026,107.

Option Three.

Option Three uses the existing site for the erection of some an additional 13,000 sq. foot steel building to provide garage space and the employee area. The site plan is similar to Option One. The blue steel building will be moved and reused as the service bay. A new concrete/wood sand and salt storage will be built. This Option assumes the Gray steel building is removed; it could be moved to the school as bus storage. (There is no separate drawing for this Option – it is assumed the site plan will be very similar to Option One.) The cost estimate assumes no phasing, although it could be phased, and is \$ 1,118,490 (see Appendix G-1, Capital Costs).

III. Analysis of the alternatives

In comparing the various Options, the Planning Commission wanted to consider an additional option (called "Option 4") that would consider the same concrete structures as in Option 2, but moving the garage to a different location. The assumption is that the same costs as in Option 2 would apply to Option 4. Two locations were considered. The first was the Bobbin Mill and the second was on the Summit Venture (i.e. Sugarbush) property being considered for housing adjacent to the town owned Aldeborgh / Roe parcel by the Kingsbury Bridge. Approximately 2 acres would be needed at either location. The town garage would be better suited for a location that is not near houses. The current site could then be reclaimed and used to accommodate affordable housing – as an extension of the Luce Pierce Road neighborhood. It may also be possible to put some limited housing across School Road from the Town Garage site.

A. Cost comparisons and analysis

1) Land development costs. Costs are included in every Option for land preparation. Since the town already owns the land for Options 1, 2, and 3, these Options are slightly more favorable than Option 4. For Option 4, there may be costs for land acquisition that are not included in the analysis. It is assumed though that the sale of house sites once the current site is reclaimed should be enough to offset the cost of acquiring new property. If the housing being considered for the Summit Ventures parcel is not feasible, then it is possible that Summit Ventures might consider donating this land to the Town for use for the Garage, since it would then facilitate creating affordable housing on vacated Town Garage property.

The current site would have the least amount of site preparation. It is possible that ledge may be encountered in preparing the site across School Road. It also needs to be noted here that in order to get the amount of space necessary for the town garage, this new site across School Road can only be developed if it is possible to bury the existing stream in a 200' long culvert. Otherwise the required setback from the stream will not permit such construction. It is not clear that necessary permits can be obtained to bury the stream.

2) Lowest capital costs. The capital costs are, in ascending order: \$ 1,118,490 for Option 3; \$ 1,434,857 for Options 2 and 4; and \$ 1,496,542 for Option 1 (See Appendix G-1, Capital Costs).

3) Can be implemented in phases. Building in phases may be desirable as a means to spread the capital costs out over a longer period of time. Even though the estimates do not contain a greater cost for phasing, there would likely be some additional costs. This is because there may be some duplication of costs and the costs of construction will go up more the longer construction is delayed. It may make better financial sense to bond the costs of total construction and build it all at once. All the Options will facilitate building in phases. Option 1 and 2 (and 4) have been designed so that phasing can be done. It might even be possible to do the construction in even more than 2 or 3 phases if desired. Even some phasing could be done in Option 3. The location of the new facilities may influence how feasible it would be to build in phases. Building in an alternate location

for Option 3 away from School Road in phases might have some operational impact, but this needs to be analyzed.

4) Potential capital cost offsets. In all the Options, it is possible for the Road Crew to do some of the site preparation which could lower the capital costs. Option 4 would have the added benefit of creating land for houses that could be sold to offset capital costs. A benefit of the Summit Ventures location is that it may be feasible to use a concrete and fabric structure for the sand storage which is a lower cost alternative. This kind of structure is totally undesirable in a residential location like School Road. It is aesthetically unpleasing and the ambient light shining through the fabric is a nuisance. The Summit Ventures location may be remote enough that this would not be a concern.

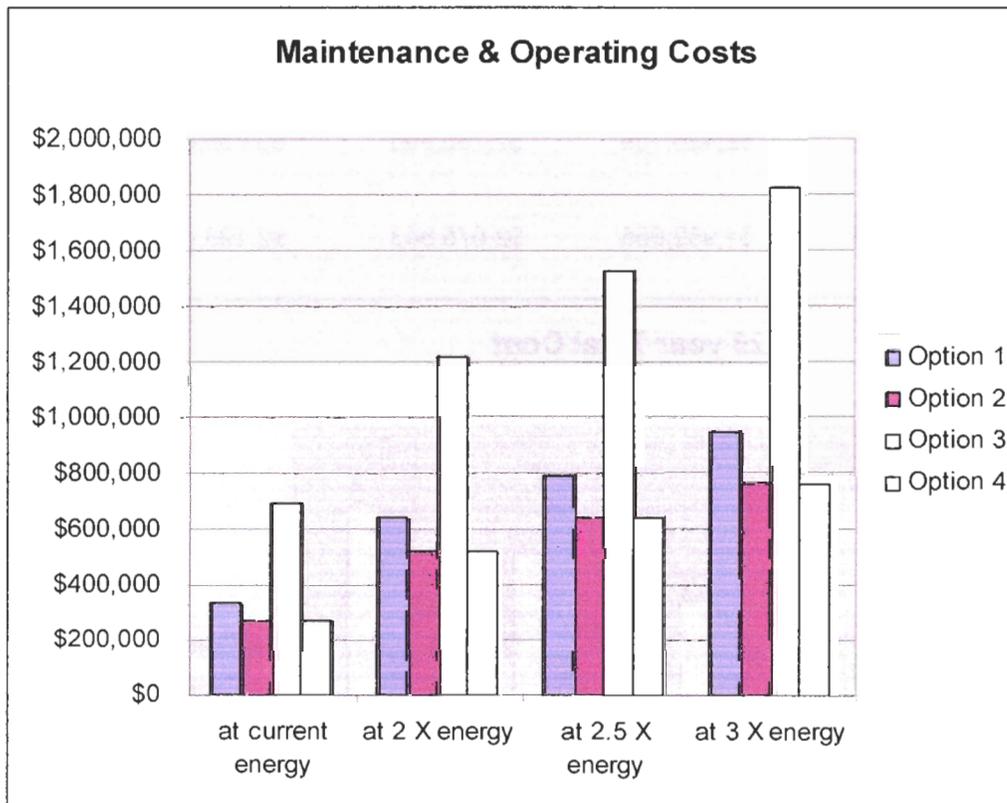
5) Lowest life cycle operational and maintenance costs. It is a very reasonable assumption that operational costs of the facility, which are mainly energy (but include some maintenance costs), will increase substantially over time. These costs over some reasonably long period of time, like 25 years, need to be considered in determining the best Option. The concrete structures with earthen roofs and south facing exposure will provide substantial improvements in energy costs compared to using steel structures in Option 3.

Appendix G-3, Comparison of Life Cycle Costs, includes an analysis of energy costs for heat and electricity for each Option. The heating and electric costs were estimated by taking the current annual costs (\$ 7,300) and multiplying that by a ratio of the size of the new structures versus the current structures. In addition, an assumed efficiency factor (65 % performance increase for heat and 25 % for lighting) was applied given the more energy efficient concrete structures. Over a 25 year period, assuming no price increases for energy, the operational costs are, in ascending order: \$ 245,563 for Options 2 and 4; \$ 306,755 for Option 1; and \$ 608,894 for Option 3, over the 25 year period, which is not very realistic. Thus, the concrete, earth covered structures will perform much better and will cost significantly less to operate than steel structures, even if energy prices never increase. The assumed annual maintenance costs for each Option are \$ 1,122 for Option 1, \$ 1,076 for Options 2 and 4 and \$ 3,355 for Option 3. An additional disadvantage of Option 3 is that steel structures will incur some periodic replacement costs. It is estimated that after 25 years it will cost an additional \$ 86,500 to replace some sheet metal and insulation.

Since it is highly unlikely that energy prices will not increase in the future, it makes sense to analyze the impact on life cycle costs of the project with some assumed average energy price increases. Assuming average energy price increases of 2 times current prices, 2.5 times current prices and 3 times current prices over the 25 year period the following comparison shows the life cycle operational and maintenance costs for Option 3 become a huge consideration and support the conclusion that a new concrete, earth covered structure is the best long term solution for the Town (see chart below).

TOTAL MAINTENANCE AND OPERATING COSTS OVER 25 YEARS

| | Maintenance and Operating Costs at current energy | Maintenance and Operating Costs at 2 X energy | Maintenance and Operating Costs at 2.5 X energy | Maintenance and Operating Costs at 3 X energy |
|----------|---|---|---|---|
| Option 1 | \$334,815 | \$641,570 | \$794,947 | \$948,325 |
| Option 2 | \$272,456 | \$518,009 | \$640,786 | \$763,562 |
| Option 3 | \$692,781 | \$1,221,169 | \$1,525,616 | \$1,830,063 |
| Option 4 | \$272,456 | \$518,009 | \$640,786 | \$763,562 |



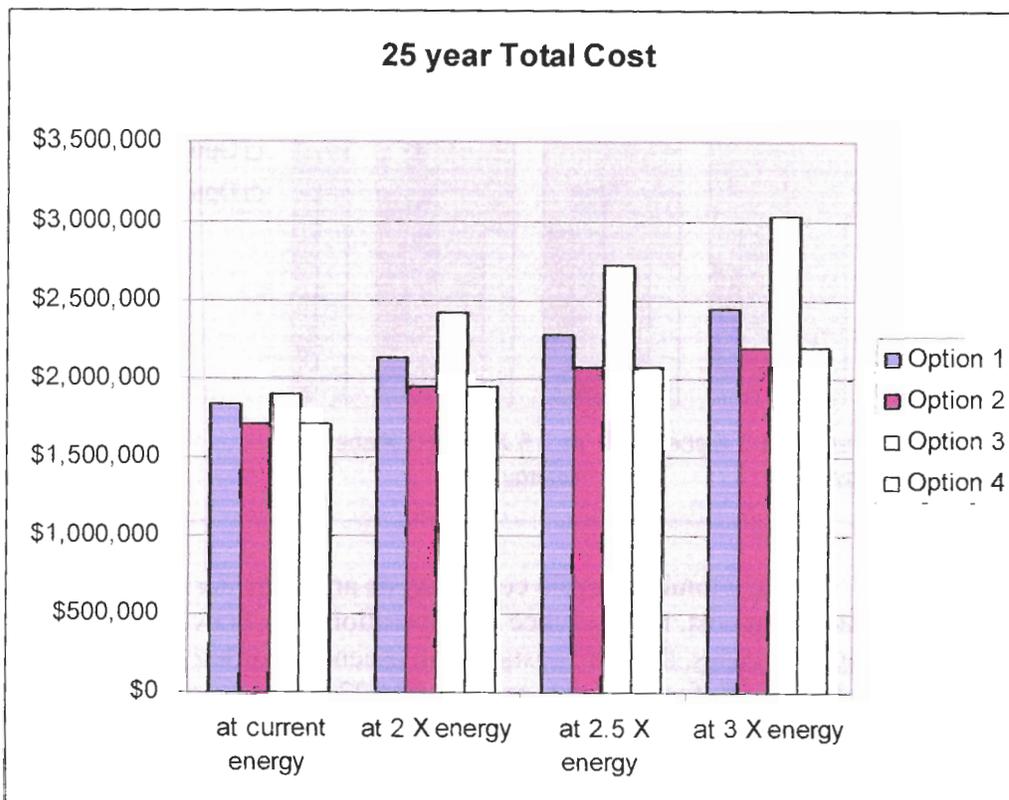
6) Lowest total costs. Doing a total life cycle cost analysis and considering all costs - initial capital cost, replacement cost, maintenance and operational costs over 25 years, assuming no energy price increases, the total costs are, in ascending order: \$ 1,707,313 for Options 2 and 4; \$ 1,831,357 for Option 1; and \$ 1,984,271 for Option 3 (see Appendix G-3, Comparison of life cycle costs). These figures do not include the

potential for additional land development costs or cost offsets from the sale of the current site for home sites.

Again, it makes sense to do total cost analyses considering energy price increases, so using average energy price increases of 2 times current prices, 2.5 times current prices and 3 times current prices over the 25 year period shows even more clearly that a new concrete, earth covered structure is less expensive and offers obvious benefits over Option 3, conventional steel buildings (See chart below).

TOTAL COSTS OVER 25 YEARS

| | Total life cycle cost over 25 years at current energy | Total life cycle cost over 25 years at 2 X energy | Total life cycle cost over 25 years at 2.5 X energy | Total life cycle cost over 25 years at 3 X energy |
|----------|---|---|---|---|
| Option 1 | \$1,831,357 | \$2,138,112 | \$2,291,489 | \$2,444,867 |
| Option 2 | \$1,707,313 | \$1,952,866 | \$2,075,643 | \$2,198,419 |
| Option 3 | \$1,897,771 | \$2,426,159 | \$2,730,606 | \$3,035,053 |
| Option 4 | \$1,707,313 | \$1,952,866 | \$2,075,643 | \$2,198,419 |



While it may be very complicated to model all the potential variables to do a precise analysis, it should be obvious from the large differences in total costs that with the greater inherently higher energy costs with a steel structure, it could take much less than the 25 year period considered above for the Town to breakeven by building a concrete, earth covered structure rather than a steel structure.

B. Other factors

In addition to cost, there are other location and operational issues that are very important and must be considered.

- 1) Least disruptive to on-going operations.** Building at a new location, either across School Road or elsewhere will cause the least disruption to on-going operations.
- 2) Close to Route 100 for easy access.** All the Options are close to Route 100, but Option 4 is the closest and has the added benefit of diverting traffic, both the Town vehicles and delivery trucks, from School Road to a remote facility not located in the Village or a residential area.
- 3) Proximity to residential areas.** School Road is not an ideal location for a town garage. It is close to houses on School Road and Luce pierce Road. There are several houses within approximately 100 feet of the town garage property. Both locations considered for Option 4 have the benefit of being much further away from any homes. The closest home would be 400 feet from the town garage if it were built at the Bobbin Mill property. The closest home would be 350 feet from the town garage if it were built at the Summit Venture property and this home would be further shielded by trees and the topography of the land. At the current site, the closest house is about 120 feet away and there are five homes within 250 feet of the site.
- 4) Sight line at intersections leaving / returning.** The only way to eliminate the poor line of sight for town vehicles negotiating the School Road and Brook Road intersection is to move the town garage to a different location. Moving would have the added benefit of reducing traffic in the Village and residential area from the town vehicles and keeping sand, gravel, and salt delivery trucks out of the Village and residential area.
- 5) Stormwater, wetlands and other issues.** It has been noted above that there some question whether a structure the size of the town garage is feasible to be built on the land across School Road due to the proximity of the stream. If the Bobbin Mill site is appropriately designed, there should be little impact on the Mad River since it is 250 feet away. The Summit Venture property does have wetlands and some steep slopes that have to be engineered around. The current site is right on top of a stream that flows in directly into the Mad River, but the new buildings would be located far enough away from that stream.
- 6) Facilitates affordable housing.** One of the most exciting benefits of moving the town garage to a new location is the possibility that the land could be reclaimed and used for 4 to 6 units of affordable housing as an extension of the Luce Pierce Road

neighborhood. It may also be possible to put some limited housing across School Road from the Town Garage site.

The table on the following page is a summary evaluation of the points discussed above. Each factor was rated from best to worst – with “1” being the best and “4” being the worst. While the individual factors were not weighted and perhaps should be, this analysis also supports the conclusion that a new concrete structure in a new location is the best alternative.

Town Garage Evaluation Criteria

| | Option 1 | Option 2 | Option 3 | Option 4 A/R | Option 4 B.M. |
|--|------------|------------|------------|-----------------|------------------|
| Cost Considerations – | | | | | |
| Land development costs (acquire & prep) | 2 | 3 | 1 | 4 | 4 |
| Can be implemented in phases | 3 | 1 | 4 | 2 | 2 |
| Lowest life cycle operational costs | 3 | 1 | 4 | 2 | 2 |
| Lowest capital costs | 2 | 3 | 1 | 3 | 3 |
| Potential capital cost offsets | NO | Maybe | NO | Maybe | Maybe |
| Lowest total costs | 3 | 1 | 4 | 2 | 2 |
| Location and operational considerations – | | | | | |
| Least disruptive to on-going operations | 4 | 1 | 4 | 1 | 1 |
| Facilitates affordable housing | 4 | 2 | 4 | 1 | 1 |
| Close to Route 100 for easy access | 3 | 3 | 3 | 2 | 1 |
| Proximity to residential areas | 4 | 4 | 4 | 1 | 1 |
| Sight line at intersections leaving / returning | 4 | 4 | 4 | 1 | 1 |
| Stormwater, wetlands and other issues | 2 | 4 | 2 | 3 | 1 |
| Average | 3.2 | 2.5 | 3.1 | 1.9 | 1.7 |

NOTE: “1” is best, “4” is worst

V. Conclusion and Recommendations

After considering all the important factors involved in determining the best plan for the town garage, the Planning Commission believes the best alternative is a new, operationally efficient, concrete, earth covered structure built at another location. The next best alternative is the same concrete structure built on the present location. The least desirable alternative is a combination of new and old steel buildings in the current location. It is important to note that the Planning Commission has based this decision on a life cycle cost analysis. While the initial capital costs of a concrete structure are higher than a steel structure, over the life of the buildings concrete actually has a lower cost.

After receiving significant input at the Planning Charrette and considering this further, the Planning Commission believes better locations for the Town Garage would be either on the Bobbin Mill property, or the Summit Ventures property adjacent to the town owned Aldeborgh / Roe parcel by the Kingsbury Bridge. These locations offer significant operational benefits and are a better location for a town garage. Another major benefit is that moving the town garage would facilitate using the current site to accommodate affordable housing – as an extension of the Luce Pierce Road neighborhood. It may also be possible to put some limited housing across School Road from the Town Garage site. Sales of the house sites could help offset the cost of relocating the Town Garage.

Unfortunately the capital costs of this project are significant. Building in phases, and perhaps even more and smaller phases than were estimated, should be considered carefully. It would also be beneficial to re-examine the requirements that were developed and determine if much smaller buildings will be workable.

The Planning Commission recommends the Selectboard take the following actions to facilitate decision making for the implementation of improvements to the Town Garage.

- 1) A decision needs to be made about whether or not to move ahead on the affordable housing project on the Summit Venture and Aldeborgh / Roe properties.
- 2) The suitability of using the current town garage site for housing needs to be determined. With the Selectboard's approval an application has already been made to the Central Vermont Regional Planning Commission for them to do a "brownfield" assessment of this site. This will yield a better understanding of site conditions to help determine if the property is suitable to be used for housing. A Phase I preliminary assessment will be performed at no cost to the town. A Phase II environmental site assessment, which includes testing the property's soil, water, and/or air would then follow. This information is used to determine cleanup options and develop a corrective action plan. This Phase II assessment may be offered at no cost to the town.

- 3) A preliminary engineering study of the School Road property should be undertaken to determine the feasibility and amount of housing that could be accommodated.
- 4) A preliminary engineering study of the Summit Venture (if the affordable housing is not going to happen there) and Bobbin Mill properties should be undertaken to confirm the suitability of those sites to accommodate the town garage.
- 5) A discussion should be held with Summit Ventures to see their willingness to donate their property for the town garage site to facilitate affordable housing.
- 6) The initial requirements for the additional space and improvements to the Town Garage should be re-evaluated to determine if much smaller buildings will be workable.

Following the steps outlined above should permit a decision to be made on the best location for the Town Garage and how to proceed.

In the short term, the Town should make immediate plans to solve the surface run-off problem and provide for sand storage. Building sand storage is a sound financial alternative with a short payback period. Based on what other towns have achieved, it is estimated that Warren could save 40 % or at least \$ 20,000 on its annual sand purchases by having sand under cover. If the decision is made to keep the town garage at the current location, then to optimize the location for sand and salt storage it would involve the additional expense of moving the Blue building, even if no other improvements are considered. If the decision is made to move the town garage to another location, the sand and salt storage could be built as an initial phase.



State of Vermont

Department of Fish and Wildlife
Department of Forests, Parks and Recreation
Department of Environmental Conservation
State Geologist
RELAY SERVICE FOR THE HEARING IMPAIRED
1-800-253-0191 TDD>Voice
1-800-253-0195 Voice>TDD

Wayne Kathan, Road Foreman
Town of Warren
PO Box 337
Warren, VT 05674

AGENCY OF NATURAL RESOURCES
Department of Environmental Conservation

Environmental Assistance Division
103 South Main Street
Waterbury, VT 05671-0411
(802) 241-3471
FAX: 241-3273
johnd@dec.anr.state.vt.us

Copy from first visit

June 17, 2003

Dear Mr. Kathan:

It was a pleasure meeting with you, Butch, Tony, Bob and Richard at the Town of Warren garage on May 14, 2003. I enjoyed the chance to provide your facility with the Department of Environmental Conservation's Municipal Compliance Assistance Program on-site compliance review. The fact that the Town has asked for assistance shows that we are all looking ahead toward the same goal of environmental compliance.

I identified compliance issues, and suggested corrective actions to bring your facility into compliance. The walk through your facility was useful in identifying potential violations and areas of concern. From our time spent together, and from my notes, I have compiled the following recommendations that are broken down into several program categories. Before I get started, it is important to note that on the day of the visit, your facility had several issues that need to be addressed, and with some additional effort and procedural changes you will be in compliance with the issues discovered during the on-site visit.

Hazardous Waste

Generator Status: As a generator of hazardous waste, The Town must submit a Vermont Hazardous Waste Handler Site ID Form for **each** facility generating hazardous waste (Public Works Garage, Wastewater Treatment Facility, etc.) to the State's Waste Management Division. As we discussed, it is important that the Town notify the State of their hazardous waste generation as soon as possible. The forms for your submission have been enclosed and I will be happy to assist you in getting them filed.

There are three categories in which a "generator" can fall: Conditionally Exempt Generator (CEG), Small Quantity Generator (SQG) or Large Quantity Generator (LQG). Very briefly, the CEG status is the preferred generator status; CEG's are subject to fewer regulations and there are less strict documentation and paperwork requirements to follow. In order to maintain a CEG status, a facility must generate less than 220 pounds of hazardous waste per month (that would be equivalent to about half of a 55-gallon drum of waste oil per month). Filing the hazardous waste notification form costs you nothing. The Waste Management Division will then assign you an EPA Identification Number to use for all future disposal of hazardous waste. In order to maintain your CEG status it is imperative that you calculate the amount of hazardous waste *generated* per month and keep detailed records on file. Status is not based on how much hazardous waste is shipped in a month, but rather how much is generated.

Oily Rags: Oily rags and wastes (including: oil soaked absorbents, shop rags or oil soaked paper towels, grit and sludge from floor drains and oil water separators, floor sweepings, etc.) make up a large quantity of hazardous waste generated in the "garage" setting. Vermont defines wastes contaminated with **greater than 5% by weight of petroleum distillates to be a hazardous waste**. Hazardous waste is banned from state landfills, and it is illegal to burn oily rags and absorbents.

Shop rags that are re-used are *exempt* from regulation as a hazardous waste and do not count toward the facilities' monthly generation total provided the rags are picked up, cleaned and reused. Personnel handling these rags and towels should know that liquid hazardous waste should not be present on the rags so that they drip. The rags (as well as other hazardous waste) need to be stored in a closed container on an impervious surface in a roofed enclosure (if stored outside), and the container must be labeled as to its contents, for example, "Used Absorbents" or "Oily Rags For Recycling".

As noted in your facility, you are currently using paper towels and rags that are thrown away after use. Oil soaked paper towels and rags need to be properly disposed of as a hazardous waste once no longer useful if they contain 5% by weight oil. For your facility, a rag service is the ideal way to generate less waste while eliminating any question about the 5% limit contained on the towels. Whichever method you choose, a collection container with proper labeling and a lid to be closed at all times unless rags or towels are actively being put inside, must be established. If you choose to continue to use rags and paper towels, I recommend you dispose of them in the "Oil Soaked - Hazardous Waste" drum explained below.

Oily Absorbents: Currently, oily absorbents are being used and thrown in the trash or swept outside after use. State regulations require you to dispose of oil soaked absorbents as a hazardous waste and **do not** allow them to be landfilled or burned. Clay based absorbents are very heavy and quickly add up as part of your CEG status. We recommend that you use as little as possible and then reuse it until no longer effective, or even better, consider a number of products on the market that are much lighter than clay. **Lab Safety (1-800-356-0783) or Pig (1-800-468-4647)** are a couple, among many, vendors who offer alternatives to clay absorbents. Please contact them directly for a current catalog of products. Whichever product you choose to be best suited for your facility's needs, you need to document the amount of new product coming into the facility as well as the amount of waste or used product being properly disposed of.

As we discussed during the on-site, re-usable rags are a good alternative for absorbents on smaller spills and leaks. Simply wipe up the spill and place the rags in your rag collection container for reuse, which will ultimately reduce the amount of clay absorbents being used at the facility. If you continue to use absorbent (ex. Speedy Dri), we recommend that you establish **two** collection containers (**both with closing lids**) one for "used absorbent to reuse" and the other for "Oil Soaked - Hazardous Waste" (properly labeled 55-gallon drums work well for the waste and a metal bucket works well for the reuse). Be certain to document each time you properly dispose of the contents of the waste container. **Note: Oily sludge from the bottom of drip pans, oil soaked Pig Pads or paper towels, and any other oil soaked waste should be added to the waste drum or container for disposal.**

By using the two collection containers, management of oil soaked hazardous waste is easier and is not in violation of State environmental regulations. I recommend employees at the facility try and use as little absorbent as possible, and get in the habit of sweeping it up and putting it in the "reuse" bucket after each use. Before you dispose of the oily waste container (or any hazardous waste), be sure and contact your local solid waste district for the disposal options and prices they offer.

Spills: As of September 30, 1998, and according to 10 VSA, Section 6617 of the Hazardous Waste Management Regulations, any spill or release of a hazardous material of **2 gallons** or more to the environment, must be reported **immediately** to the Waste Management Division at 802-241-3888 (after hours notify the spill response team at 800-641-5005). This includes wastes that make their way to the wastewater treatment facility. In order to avoid reporting such releases, steps should be taken to protect your garage and your floor drains from accidental spills. Temporary or locking drain plugs work well for this purpose. The bulk of the spill could be cleaned up, and then the plugs could be removed to allow wash water to drain the facility. Another alternative is to place Pigs, or other oil soaking hydrophobic coil socks, around the drain to achieve the same result of a protective measure for

accidental spills. You could also place spill kits near doors and exit points to protect against releases. Even homemade spill kits consisting of a 5-gallon bucket half full of absorbent and a few pig pads work well if properly used. Employees should all be trained to prevent, as well as respond, to on-site spills. To obtain additional, more detailed, information regarding your fuel storage, please refer to the section of this letter titled Oil and Fuel Storage. To obtain additional, more detailed, information regarding your floor drains, please refer to the section of this letter titled Wastewater.

Labeling of Drums and Labeling In General: When in doubt, label every drum or container whether it contains a waste or a new product in use. Avoid storing unlabeled "mystery" buckets around the shop that are not clearly labeled. Unlabeled buckets may appear to be improperly stored wastes, and can lead to problems. Use labels such as "Used Oil" or "Used Antifreeze" to clearly mark a product for recycling, or mark with "Hazardous Waste" if it is truly being disposed of as a waste. I encourage to label gas cans, 5-gallon buckets used for various purposes, label all drip pans "used oil only", and any other items that you think should be labeled. While you can mark those drums with a marker or paint, any product that is being disposed of as a hazardous waste must be stored in a container marked with a hazardous waste label. For CEGs the label must include the date that the container was full and you stopped adding hazardous waste. Although labeling is one of the easiest compliance issues to address, inspectors often find wastes stored on-site that are not properly labeled.

Batteries: Vehicle batteries must be properly disposed of during your hazardous waste collection day if they are not being recycled through your battery supplier. Batteries stored on-site must remain on a dedicated shelf until removed for use. Used batteries must be stored inside or on an impervious surface outside in a roofed area, as long as the battery case cannot freeze and crack.

Oil Filters: Apparently oil filters are currently being taken to Harwood to be crushed. Used oil filters can be recycled as scrap metal, or landfilled after being properly drained or drained and crushed. Puncturing the anti-drain back valve or dome, along with at least four hours of hot draining is required before an oil filter can be recycled or landfilled. For your facility, we recommend that you punch a hole in the filter while it's draining before you send it off site. Once oil filters are properly drained, they could be placed in a 55-gallon drum labeled "Used Oil Filters for Recycling". If you choose to, you may send non-terne plated filters out with your trash, once punctured and hot drained. **Note: Oil filters cannot be burned to remove residual oil.**

Used Oil Management: Although your facility does not generate large quantities of used oil, **detailed records must be kept of the quantity generated and shipped off-site for disposal or burning.** Records should include 1) the date, 2) the quantity, 3) means of disposal, and 4) the name and signature of the responsible party. Used oil that is burned in a manufactured used oil burner should not be included in the calculations when determining your user status. Remember to label your used oil drum, and keep it closed at all times unless actively being added to. State regulations do not allow anything to be mixed with the used oil, such as solvents, antifreeze etc. Please contact me if you have any questions about this requirement.

I noted during the onsite that your used oil tanks were not properly labeled, and were being stored on bare ground under cover. I recommend you move the oil inside, or store it on an impervious surface to be in compliance with State regulations. Avoid storing wastes on bare ground to insure that additional problems do not arise. I noted a few areas where oil or fuel has been dripping on the ground, and I encourage you to address those areas to avoid problems in the future.

If you continue to give away your used oil to be burned, the facility becomes (and must notify as) a **marketer** of used oil. You must obtain a one-time test from a certified laboratory, or use a field screening test kit, to ensure the oil you are giving away meets the specifications to be burned. If the process generating the used oil does not change, and nothing is added to the used oil, you will not need any additional testing. Keep all test results in a file along with documentation of your used oil activity. State regulations do not allow anything to be mixed with the used oil being sent off-site for burning. Please contact me if you have any questions about the testing requirements for used oil marketers. Please call if you have any questions.

We also recommend you buy or make additional drip pans of various sizes to be placed under leaks before they hit the floor. As we discussed during the on-site, I recommend you build a drip pan and filter draining system to help better manage drip pans and spent oil filters. The catch system, or trough, could slope to one corner where the oil could collect and drain into a bucket. Every couple days the bucket could be poured into your used oil collection drum or tank. The trough collection system will help your facility properly manage draining filters and used oil, and will help keep the shop clean. If you build an oil draining system, we recommend you label it "Used Oil Only."

Oil and Fuel Storage: I noted during the on-site that you have one 5,000-gallon under ground storage tank for over the road diesel. I recommend you keep all State certification and inspection information available at the facility. Be sure to annually inspect the fill port and the overfill check valve system. Make sure all seals at the fill port are tight to ensure no water is getting in which could cause problems in the future. We also talked about your above ground oil storage and the regulations that cover fuel and oil storage.

If a facility has more than 1320 gallons of above-ground oil storage capacity, a Spill Prevention Control and Countermeasure (SPCC) plan must be created. For SPCC it is not how much is stored but rather how much potential for storage is on-site. Although the Town is currently **in violation** of SPCC, for not having a plan in place, by lowering your fuel storage below the regulatory limit, you will be exempt from SPCC. The smallest container that must be counted is 55-gallons. Remember to count diesel fuel, gas, fuel oil, used oil, and ANY other oil or fuel products. You might be able to buy some of your oils in smaller than 55-gallon drums, and that product would not count towards the total. Your facility currently has over 2500-gallons of above ground storage capacity. SPCC is a Federal Program run by the US EPA, and we encourage you to consider tank sizes and facility needs before buying fuel tanks, to avoid being in violation of this federal program. If you choose to manage over 1320-gallons of oil above ground, I recommend you explore SPCC in detail. As we discussed during the onsite, there are several environmental consulting firms in the area that have experience creating SPCC plans. Please contact me if you have any questions about SPCC.

Used/Waste Antifreeze Management: Although your facility does not generate very much spent antifreeze, you must properly manage any waste antifreeze generated on-site. For your facility, waste antifreeze could be shipped off-site as hazardous waste during your hazardous waste collection day, or you could dispose of it through your local solid waste district. The amount of waste antifreeze produced each month needs to be calculated for addition to your hazardous waste generation total. Again, antifreeze that is reused or recycled is *exempt* from your generator status total. If you choose to dispose of your waste antifreeze, you must label your collection container "Hazardous Waste - Spent Antifreeze" and clearly document in your records 1) the amount, 2) the date, and 3) the person or organization handling the disposal. Even if you only dispose of one container every 2-3 years, documentation of the disposal and the amount generated must be recorded.

Bulk Use of Chemicals: Depending upon how much money is being spent on brake clean, carb cleaner and other canned chemicals used, bulk purchases of "hot shots" (reusable spray cans or pump bottles) may make sense for the shop. Bulk use makes it easier to inventory and track usage and will help with general shop cleanliness, as well as most importantly, save you money. The State contracts for items used in their vehicle service and maintenance facility, which are available for municipal purchases. We will get you in contact with George Combes and Dick Johnson at the Agency of Transportation's central garage in Berlin for more detailed information.

Solvent Sink: A professional contractor is currently servicing the solvent sink in the shop for you. The type of cleaning chemical being used will determine the handling of the waste, as well as what protective gear the sink operators should use. When not in use, **the cover must remain on the sink at all times** as required by both the Hazardous Waste Management and Air Pollution Regulations. In order to determine what cleaning alternatives might work for you, you need to be clear about what is being cleaned in the sink, how often the sink is being used, and the cost of the waste being disposed of.

As we discussed during the on-site visit, we recommend aqueous parts cleaners as an alternative to the solvent based hazardous waste generating sink you are currently using. Remember that even if the sink is being serviced for you, the weight of the spent solvent taken off site still **counts towards your total waste calculation** for your

generator status and must be documented each time you properly dispose of the solvent. If you are interested in additional information on aqueous parts cleaners please do not hesitate to call. Remember that **an MSDS sheet for the solvent must be kept in your MSDS binder**. Shop records must clearly track usage and proper disposal of solvent to be in compliance. If you decided to keep the sink, you can manage the waste yourself and avoid the expense, the solvent can be properly disposed of during your hazardous waste collection days, or possibly through your solid waste district. You could also use diesel fuel or kerosene, instead of a solvent-based cleaner. Although the solvent may work better in some situations, the spent diesel fuel or kerosene can be managed with your used oil.

Storage Room: During our on-site visit we looked at the storage area in the main bay. The storage area of products in the main bay was fairly clean and well organized. I hope you will annually clean out the storage room to avoid a mess that is beyond cleaning. We recommend that you store new product away from product in-use to avoid any potential problems associated with storing the two together. Label any storage areas used to store waste products. Recycle anything that can be recycled and properly dispose of any other items not in use. Remember that clean and unused "product" is not a "hazardous waste" and is regulated by VOSHA. Product can be given away when no longer useful to you, but hazardous waste cannot. Tracking usage and inventory is much easier with fewer products and will ultimately save the town money. Again, State contracts are available for municipalities to purchase items either in bulk or simply for less money for the same product. **Remember, an MSDS sheet for every chemical in the storage room must be in your MSDS binder.**

Wastewater

Floor drains: Current Federal Rule states that any floor drain at a motor vehicle service facility has to discharge to a municipal wastewater treatment facility or an above or below ground holding tank. **Existing floor drains** that do not discharge to either a municipal wastewater treatment facility or a holding tank, will have to be phased out. Since Vermont is a "delegated state" for the Underground Injection Control program (UIC), we have been put on a schedule by EPA to adopt the Federal Rule. While the rule adoption process is underway, Vermont's 1993 Floor Drain Procedure requires the registration of all UIC injection wells (this includes floor drains). The forms have been enclosed for your convenience.

Vermont's future UIC Rules will **not** permit any day lighted or subsurface discharges from vehicle service bays unless the discharge is strictly for snow melt runoff. Once the new rules are in place, all floor drains will have to either be **permanently closed or re-routed to an oil/water/grit separator**. The floor drains system will then have to either 1) directly discharge to a municipal treatment plant or 2) a holding tank from which the contents can be pumped and taken to a municipal wastewater treatment facility. I understand that connecting to a municipal sewer is not an option at the facility and that the holding tank option will have to be looked into. With the oil/water/grit separator in place, connecting to a tank should be relatively easy for the Town to do. As we discussed during the on-site, ^{when?} the side of the facility with no floor drains could be used as a service only side, and you could leave the floor drains in the other bays (for snow melt only). The service side, or bay, would have to be completely physically isolated so that a spill in that bay could not reach the floor drain in the snow melt bays, and eventually discharge to the environment. If you choose to use this system, remember that **no chemicals or oils** can be stored in the snow melt bays.

Until Vermont adopts the new UIC Rule, the 1984 Rules and 1993 Floor Drain Procedure will remain in effect. **Just so you are clear**, you must register your floor drains, and otherwise the facility is not in violation of the new requirements dealing with floor drains, but will be as soon as the new rule is adopted and the phase out is complete. To ensure that no regulatory action is taken, we encourage you to permanently plug the drains with concrete or start looking into a holding tank system or isolate the service only side and move all oils and chemicals accordingly.

Be sure to instruct your employees on the liability aspects of this particular regulation so they fully understand the impact that could occur if a hazardous waste spill were to occur and make its way to the environment. If you have any additional questions, or are not sure what is required of you, please do not hesitate to call.

Oil Water Grit Separator: If you choose to install a separator system, it is imperative that a detailed maintenance and service schedule be created for the system. The separator should be maintained and cleaned at least annually. If an accidental spill were to occur, the separator should be cleaned immediately thereafter. The drying beds at a wastewater treatment facility could be used to empty the vector truck, with the water entering the head works and the grit and sludge being separated out. If the grit and sludge has less than 5% by weight of oily waste, then the grit could be landfilled. If the grit has greater than 5% by weight of oily waste, then it would have to be shipped out as hazardous waste under the EPA ID number assigned to the Department of Public Works Garage.

Storm water

The quality of our surface waters, are continually under pressure as development and potential sources of pollution continue to grow. Municipal public works facilities have been identified by EPA as a potential source of stormwater pollution. Municipal operations including DPW garages, wastewater treatment facilities (Greater than 1 MGD design flow), transfer and recycling facilities will all have to seek coverage under the Multi Sector General Permit (MSGP). The MSGP is a five-year permit that covers new and existing discharges of stormwater associated with certain types of industrial activity within Vermont. Without going into great detail, your facility will have to either obtain the "No Exposure" exclusion, or prepare a Stormwater Pollution Prevention Plan (SWPPP). Facilities will have to send the Stormwater Section a Notice of Intent (NOI) and implement their plans on a phased in basis.

As of right now, towns will have to seek coverage under MSGP, when the final permit is issued. The specifics of the permit, and details of what will be required of towns, will be known when the final permit is issued. **The final implementation process and dates contained in the draft permit are currently under review, and may be changed in the future. We will notify all municipalities working with this program concerning the final implementation dates and process.** Although the specific details may change, the overall message of the final permit will require public works facilities to manage stormwater discharges from their facilities. I encourage you to begin the process of cleaning up the grounds outside the facility, and consider what is being exposed to precipitation, and the potential impacts of that exposure.

General Issues

When in doubt, call the Waste Management Division or your Solid Waste Management District Coordinator for ultimate disposal of all waste. Utilize the State and the District Coordinator as a resource for information regarding the disposal of hazardous waste whenever possible. State employees work for you and we encourage you to utilize their expertise. If they cannot help, please feel free to call me, and I will assist you with your disposal concerns. Disposal of wastes will not always be free and a line item in the garage budget should reflect potential disposal costs. Remember to document and keep proof of all disposals of wastes to thoroughly cover the facility.

Refer to your copy of the EAD's "A Vehicle Service and Repair Technician's Guide to Vermont Environmental Regulations" whenever necessary. You can also access the EAD homepage as an additional source of information.

State Contracts for purchasing of bulk chemicals and assorted parts, wiper blades, head lights, oil filters, tires, rebuilds and many other products found in the "garage" setting, are available by contacting Dick Johnson "DJ" at the Central Highway Garage in Berlin. DJ can be reached at: 828-2564. As detailed in this letter, use of the State Contract can save you money and will help to consolidate and organize your operations as well as reduce the number and quantity of hazardous chemicals currently in use.

The outside grounds surrounding the facility need some attention. Several issues outside will cause problems with the stormwater section, and several are just poor housekeeping issues. A thorough spring cleaning each year will help to get rid of trash and keep the grounds looking clean and orderly. Recycle any scrap metal that ends up being stored on the grounds and avoid 55-gallon drums and other containers being stored outside with no protection from

the elements, unless they are on their sides with bungs and lids closed. I encourage you to annually clean and organize the area, to ensure that it will not be a liability for the garage. I also hope you will make sure no wastes are stored in the cold storage buildings. I encourage you to properly dispose of those containers, and avoid any such wastes being stored outside. Remember, inspectors can look in every building on-site while conducting a routine inspection.

I noted during the visit that the junked school bus should be properly disposed of. The rusting carcass is only a liability to the facility, and of special concern to the water quality section. As we discussed, maybe you could do a "Clean Up The Yard" school project as a way to involve local kids. The entire yard needs to be thoroughly cleaned and organized to help better run the facility. I also hope you will grade the yard in such a way that storm water run off will head towards wooded or vegetated areas, rather than directly towards the creek draining that part of town. Please call if you would like to further discuss any of these issues.

Other State Agency Issues

While I am not an expert in other State programs, I have had cross training enough to note the cross-over regulations, and I try to list them whenever I observe these problems.

VOSHA (Labor & Industry and Health & Safety) concerns include items such as the handling, labeling and storage of chemical (new product), bench grinder operations and flammable materials storage. As we discussed, gasoline needs to be stored in gas cans with lids closed at all times unless in use. Remember to keep the tool rest on all grinders at the facility with 1/8 of an inch from the grinder wheel, the top guard at 1/4 inch, and be sure they are bolted down. I also recommend you label all outside doors and storage areas at the facility so emergency crews can easily determine the contents of each area in case of an emergency. Safety signage is also recommend at all work benches, and areas where power tools are being operated. I recommend you replace any frayed or patched electrical chords at the facility. For welding, you should have a mechanical vent, goggles, face shield, gloves and a coat or sleeves available to employees using that equipment. Remember that you need an MSD sheet for welding rod and anything other than mild steel.

Although you have material safety data sheets (MSDS) available for facility employees, make sure they are up to date. The MSDS book needs to be reviewed to ensure that it is up to date and reflects only those chemicals currently being used or present at the facility. All other sheets need to be removed to avoid confusion. All chemicals brought into your facility must have an MSDS accompanying them, and they must be filed in such a way that it is clearly understandable what product goes with what sheet. You could file them alphabetically or in some other systematic way. The MSDS book could be broken down into sections with dividers for product use (such as All Spray Can Products, Parts Washers, Hand Cleaners, Brake Fluids, Oils etc.). A front section in the binder could be titled "Trial Products". Contained in this section are sheets from products used only on a temporary basis. If you end up not liking the product, simply throw out the sheet. If you like and will continue to use the product, simply move it to the proper spot in your book. MSDS information can be obtained on the web through the SIRI web site at www.hazard.com. We recommend that all employees be given personal protection training on how to handle and use all chemicals at the facility, as well as specific steps to be taken in case of an emergency.

Conclusion

On the day of the on-site visit, your facility was for the most part in compliance with state environmental regulations, however, there are problems that can be corrected with minimal time and effort. Organization and labeling are two problem areas for any facility that can be corrected with group participation. I encourage you to take action and further develop your oily waste collection system with some sort of filter and drip pan draining system. I encourage you to address your SPCC violation by either lowering your potential above ground storage, or having a plan created for the facility. I also hope you will address your floor drain issue, to insure the facility is in

compliance in the future. The outside grounds surrounding the facility are a substantial challenge with all of your other duties, but some sort of community or school clean up project may be the best way to address the issues. Once the yard is cleaned up, keeping it clean is always much easier. Once new operational procedures are instituted, the facility will generate less waste and will be fully operating within the environmental regulations of the state that were discovered during the on-site. I have given you a long list of items to address and I know you will be trying to make corrections as time allows. Remember to use us as a resource to assist you in your efforts whenever possible.

Thank you for your cooperation and for your positive attitude towards environmental compliance. I look forward to additional work with the Town of Warren. I will be happy to assist you whenever possible and encourage you to use all of the resources available from the Environmental Assistance Division. If there is anything I can do in the immediate future, please do not hesitate to call. I can be reached at 800-974-9559.

Sincerely,

John Daly
Environmental Assistance Specialist

Enclosures



State of Vermont

AGENCY OF NATURAL RESOURCES
Department of Environmental Conservation

Department of Fish and Wildlife
Department of Forests, Parks and Recreation
Department of Environmental Conservation
State Geologist
RELAY SERVICE FOR THE HEARING IMPAIRED
1-800-253-0191 TDD>Voice
1-800-253-0195 Voice>TDD

Environmental Assistance Office
103 South Main Street
Waterbury, VT 05671-0411
(802) 241-3471
FAX: 241-3273
john.daly@anr.state.vt.us

Richard Robinson, Road Foreman
Town of Warren
PO Box 337
Warren, VT 05674

December 22, 2004

Dear Mr. Robinson:

It was nice to meet with you, Tony and the rest of the crew at the Town garage on October 26, 2004. I am happy to see that you are committed to a continuing effort to ensure that your facility is in compliance with both state and federal environmental regulations. I noted during my second visit that you have made progress on some of issues that I pointed out during my first visit, however, there are still both procedural and compliance issues that need to be addressed.

I have enclosed a copy of the letter from my first visit, which should serve both as a reference point as well as a source of information. I will summarize the second visit with a more condensed letter with less detail, so feel free to call me if you have any questions or if you're not sure about something. Again, the fact that you continue to work with this program shows that you are committed to bringing your facility into compliance.

Hazardous Waste

Generator Status: As a generator of hazardous waste, The Town must submit a Vermont Hazardous Waste Handler Site ID Form for **each** facility generating hazardous waste (Public Works Garage, Wastewater Treatment Facility, etc.) to the State's Waste Management Division. As we discussed, it is important that the Town notify the State of their hazardous waste generation **as soon as possible**. I just checked with the Waste Management Division and it appears you **have not** yet filed your generator form. I have enclosed a copy of the form for your submission and I will be happy to assist you in getting them filed.

I also noted several issues that I will list in bullet format, and I encourage you to look at your original letter for additional information on the items listed. You should also feel free to call me with questions or if you need additional clarification on anything.

- Remember that your oily rags and/or oily waste container need to be properly labeled
- Any waste soaked in 5% by weight petroleum distillates must be properly disposed of
- I encourage you to avoid unlabeled buckets and containers
- You need to label your used oil drum, notify as a marketer, and document all activity.

- You also need to properly label any hazardous waste being disposed of and document it in your records
- Sounds like you have a plan for your floor drains that will address the new requirements
- Your facility is in violation of SPCC for above ground oil storage, I encourage you to address the problem. Please see the original letter or call if you have any questions
- I also noted several VOSHA violations that I encourage to address. You should call Project WorkSAFE to do a compliance visit for VOSHA issues that will help you fully understand what needs to be done to bring the facility into compliance with their requirements. Project WorkSAFE is a voluntary program that will cost you nothing and will allow you to address VOSHA problems without having a full blown VOSHA inspection or any fines. Here are a few areas of concern that I noted during my visit;
 - 1) You need an eyewash at the facility
 - 2) The electrical box in the bathroom should be looked at and brought up to code as well as all the electrical service in the facility
 - 3) All outlets in the facility should be GFI, or the main breaker should have GFI protection
 - 4) Keep pathways to exits clear of clutter, as well as overall trip hazardous clear from floors
 - 5) Look closely at your grinder and call if you have questions
 - 6) Gasoline stored in the tank outside DOES NOT meet VOSHA standards and I encourage you to address the issue or stop storing gas in the 300-gallon tank onsite.
 - 7) The propane tanks stored outside should be properly labeled and the old piping from the stove should be removed.
 - 8) You should get your community right to know information posted, MSDS information should be available for ALL chemicals stored onsite, have you submitted your Tier II information for hazardous materials stored onsite? Please call if you have questions.

Conclusion

Although many of the issues that were discovered during the first on-site visit have been addressed, there are still several that I recommend you take a closer look at. I have enclosed a copy of the original letter as a source of information to help you in your efforts, and please feel free to call if you're not sure about something. I encourage you to consider having Project WorkSAFE do a VOSHA compliance inspection which will help you better understand potential VOSHA problems at the facility.

Thank you for continuing to work with the MCAP and for your positive attitude towards environmental compliance. I look forward to additional work with the Town of Warren. I will be happy to assist you whenever possible and encourage you to use all of the resources available from the Environmental Assistance Office. If there is anything I can do in the immediate future, please do not hesitate to call. I can be reached at 800-974-9559.

Sincerely,

John Daly
Environmental Assistance Specialist

Enclosures

Notes from visit to Town Garage - March 19, 2005

In attendance was: Road Crew – Richard Robinson, Bobby Robinson, Tony, Jimmy, Butch Hartschorn, Selectmen – Barry Simpson, Steve Butcher, Planning Commissioners – Don LaHaye, John Goss, Laura Crandall and John Donaldson, and Miron Malbeouf

The major items in the facility consist of: 1. main garage building (for vehicle storage, maintenance, other storage, workbenches, bathroom, break area, etc.), 2. gray back building (for vehicle and other storage), 3. salt shed, 4. liquid chloride tanks, 5. outdoor sand pile, 6. “shaker/separator”, 7. settlement pit for floor drainage from gray back building, 8. holding tank for storage from floor drain from main garage, 8. underground “over road” fuel storage tank (double walled), 9. artesian well, and 10. parking yard for buses, road crew and visitor vehicles

A. Major deficiencies in current facilities -

1. Above ground fuel storage – needs to be on containment area
2. Main Garage – improper wiring, inadequate ventilation, inadequate lighting, floor drain system (inefficient to mix snow melt and oil spills in same stream), inadequate maintenance area, inadequate break room and bathroom. No eye wash or shower facility.
3. Gray back building – need to raise roof (ice issue), more insulation and add emergency exit
4. General – inadequate storage for all vehicles and equipment that should be under cover - (preliminary list: 5 trucks, 1 pick-up, grader, bulldozer, 2 buses, tractors, miscellaneous tractor equipment, large tools, etc.)
5. Salt storage is inadequate to prevent run-off.
6. Poor layout of facilities and parking spaces

B. Requirements (preliminary assessment)

1. Need a main garage big enough to hold all major vehicles and with a separate service bay large enough to handle a bus or the grader too. A building 70 feet deep by 180 feet long should be adequate. Should allow 6 feet between vehicles. The first 55 feet of depth would be for vehicle storage, with room at the rear for a welding area, work benches, air, water, etc. and the other 15 feet (separated from the vehicles by a cinderblock wall), would be for office area, bathroom, shower, lockers, break room, etc. Needs a separate service bay with spill containment, then can have a separate snowmelt drain in the rest of the facility. Should be used for oil storage also. The main garage building cannot be enhanced to create the necessary garage facilities, but should be saved. It could be moved and used for bus storage, sand storage, and/ or a cold storage facility.

2. Need better salt shed; large enough for trailer to get in and dump its load - probably 20 by 40 feet, with proper containment.

3. Need storage for the sand pile also. Today, sand gets wet and freezes and has to be dug out and separated. This then requires more yard space and extra time and labor. Not clear yet how large this would have to be, but it is estimated that storage for 4,000 yards of sand will be required. One possibility is to use the current main garage building for sand storage.

4. Need a better pit for snowmelt and lot run off; proper grading of lot required.

5. Gated access to the facility would be preferable.

6. Consider room for future expansion, more vehicles, etc.

7. Also consider room for potential of town offices to be located here

C. Other discussion points

1. Need to consider the potential for other locations for part or all of the Town garage operations.

2. Difficult sight lines and intersection considering all the school traffic

3. Underground fuel tank may have to be moved – can't drive over it.

4. May have had to move artesian well at some point.

5. Might be possible to create a parking area for buses and road crew personal vehicles across School Road and slightly up the hill. Preliminary assessment is that the current lot size is large enough to accommodate the need changes, especially if some operations are moved across the road.

D. Possible next steps –

1. Develop detailed needs assessment.

a. Plat plan of site – have road crew lay out existing facilities and submit ideas for alternative arrangements

- b. Develop a questionnaire to get detailed input on requirements from the road crew:
 - 1) complete equipment list (future considerations)
 - 2) space requirements by activity/material/etc.
2. Visits to – State facility in Waitsfield, Hartland, New Haven, maybe Duxbury (but has some deficiencies)
3. Will need to hire an engineer / designer at some point to develop plans and costs (look for grant money)
4. Develop decision matrix for alternative ideas and locations
5. Determine phasing of any construction so work is not too severely impacted.

Town Garage facility requirements questionnaire

A) Describe all large over road vehicles – trucks, grader, tractors, busses, etc.

Name

Dimensions (length and width)

1. Loader $24' L$ X $12' H$ X $9' W$
 $Plow = +11'$ $Wing = +2'$
2. Trucks 5@ $26' L$ X $12' H$ X $10' W$
 $Plow = +10'$ $Wing = +4'$
3. Grader(s) 2@ $29' L$ X $12' H$ X $9' W$
4. Tractor (283 Massey Ferguson) $14' X 10' W X 10' H$
5. Roadside Mower (Ford) " X " X "
6. Box Sweeper $4' X 4'$
7. _____
8. _____
9. _____
10. _____

B) Describe any future requirements for additional over road vehicles – over the next 5 years, 10 years and 20 years.

Town Garage facility requirements questionnaire

C) Indicate current and future space requirements (for HEATED storage) in square feet

for the following: 40' x 70' Blue Bld.
40' x 60' Gray Bld.

| | Current | Future |
|--|--|----------------------|
| 1. Bathroom (include shower) | 6' x 8' (no shower) | 14' x 20' |
| 2. Break room | 0 | 14' x 20' |
| 3. Office facilities | 0 | 14' x 20' |
| 4. Workbenches | 20' x 2' | 4 - 2' x 8' |
| 5. Welding facilities | 0 | 10' x 20' |
| 6. Service bay | 0 | 18' x 50' |
| 7. Oil storage | (Stored in blue bld.) | 14' x 20' |
| 8. Paper/ Record storage | 0 | in office |
| 9. Other materials storage (describe the materials) | 0 | 14' x 20' |
| 10. Other equipment storage not specified in A) above (describe the equipment) | Utility Room (Furnace, etc.) | 10' x 20' |
| 11. Other (specify type) | Rock Rake | |
| 12. Other (specify type) | 2 - School Buses | |
| 13. Other (specify type) | Cub Cadet, Husquarna (Riders) 3 push mowers | Why heated? |
| 14. Other (specify type) | 3 weed whips, 2 brooms, Extendable saw, 2 brush cutters, Culvert Steamer, 2 chain saws | Why heated? |
| 15. Total outdoor parking for workers, visitors, etc. | — | 70' x 25' |

16. Other outdoor parking or storage requirements

D) Indicate current and future space requirements (for COLD storage) in square feet (describe each material type)

Following equipment usually lives outdoors.

| | Current | Future |
|----|----------------|--------|
| 1. | 2 Road Graders | |
| 2. | | |
| 3. | | |
| 4. | | |
| 5. | | |
| 6. | | |

E) Indicate current and future space requirements for salt storage in square feet (or cubic feet)

| Current | Future |
|-----------|-----------|
| 18' x 30' | 16' x 50' |

F) Indicate current and future space requirements for sand storage in square feet (or cubic feet)

| Current | Future |
|----------|---------------------------------------|
| 5000 yds | 5000 yds (150 x 50) can't be right |

would use this current if under cover.

G) Indicate any other items that should be considered for space planning. Provide as much detail as possible.

Town Garage facility requirements questionnaire

Please return to: Miron Malboeuf, Warren Municipal Building

Signature

Date

WARREN TOWN GARAGE

OPTIONS FOR CHANGE

***PREPARED BY
THE WARREN PLANNING COMMISSION***

July 12, 2005

Town of Warren Planning Commission

Town Garage Project

DECISION STATEMENT

Provide necessary environmental, safety, and certain facility enhancements as soon as possible and plan for additional enhancements to satisfy future needs

"MUSTS" - criteria that any alternative must meet

- 1- Containment area for any and all above ground oil storage
- 2- Fix improper wiring, inadequate ventilation, and improper lighting
- 3- Remedy roof leak in Gray Building & add emergency exit
- 4- Address surface water runoff from salt storage
- 5- Eye wash facility
- 6- Improved floor drain system – separate spill containment and snowmelt (will be required in the future)

"WANTS" - criteria that are desirable

- 1- Larger and separate vehicle maintenance area (with separate drainage holding tank)
- 2- Larger storage facility for vehicles & equipment (school buses too??)
- 3- Employee break room & updated bathroom (& shower?) & office area
- 4- Storage facility for sand/salt
- 5- Ability to gate all or part of the property
- 6- Improved layout of facilities and parking space (provide room for other town facilities?)
- 7- Cost effectiveness – capital and operational
- 8- Satisfy future growth needs
- 9- Have support of public and road crew
- 10- Aesthetically pleasing
- 11- Improved yard – grade and surface

*** "Musts" or "Needs" may be added in regards to VOSHA compliance issues

VERY PRELIMINARY POTENTIAL SOLUTIONS TO TOWN GARAGE ISSUES

Estimated Range
Of Costs in \$\$\$

OPTION 1 - Minimum for environmental, safety and facility issues

| | |
|---|----------------------------|
| 1. Build oil containment area (10 X 20 slab) | 1,000 - 2,000 |
| 2. Improve wiring, lighting and ventilation in blue building | 15,000 - 20,000 |
| 3. Fix gray building – new emerg. Door, insulation, roof | 20,000 - 30,000 |
| 4. Improved salt storage (to 16' X 50'x 25'(H)) and deal with surface runoff - assumes pole barn on concrete @ (\$65 to \$75/ sq. ft) | 50,000 - 60,000 |
| 5. Section off service bay with bulkhead / wall | 1,000 - 5,000 |
| TOTAL | \$ 87,000 – 127,000 |

OPTION 2 - Option 1 plus sand storage

| | |
|--|--------------------------------|
| 1. Build oil containment area | 1,000 - 2,000 |
| 2. Improve wiring, lighting and ventilation in blue building | 15,000 - 20,000 |
| 3. Fix gray building – new emergency Door, insulation, roof | 20,000 - 30,000 |
| 4. New salt / sand storage (72' X 100' X 38'(H)) and deal with surface runoff - assumes a concrete and fabric structure like New Haven @ \$ 18 - \$25/ sq. ft. (not best solution) *** | 132,000 - 165,000 |
| 5. Section off service bay with bulkhead / wall | 1,000 - 5,000 |
| TOTAL | \$ 169,000 - \$ 222,000 |

OPTION 3 - Option 2 plus double the available garage space

Cost of option 2 plus

| | |
|---|--------------------------------|
| Build an additional garage, incl. a separate vehicle maintenance area w/ breakroom, larger bath, office, etc. (2800 sq. ft. total) @ \$ 120 - \$150/sq. ft.(provides a base for additional expansion and possible decommission of blue building) | \$ 336,000 - \$ 420,000 |
| TOTAL | \$ 505,000 - \$ 642,000 |

OPTION 4 - Long term, energy efficient solution – satisfies all “Musts” and “Needs”

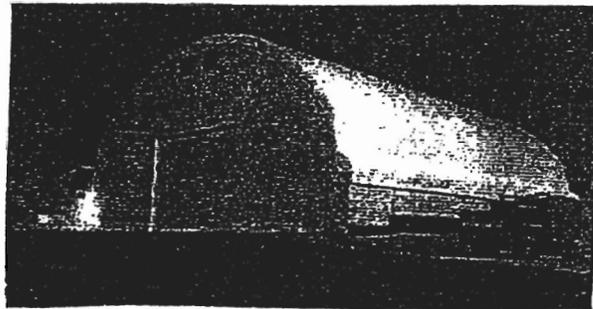
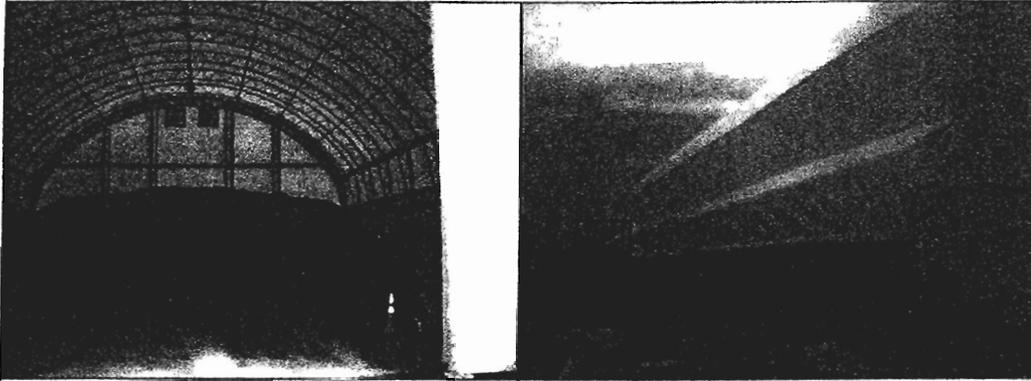
| | |
|---|---------------------------------|
| New salt / sand storage (72' X 100' X 38'(H)) | 132,000 - 165,000 |
| New 8000 sq. ft. building @ \$ 120 - \$150/ sq. ft. | 960,000 - 1,200,000 |
| Keep gray building for cold storage | |
| TOTAL | \$ 1,092,000 – 1,365,000 |

*** Sand storage area should allow 40% sand savings per year (over \$ 20,000)



Re: Town garage

Subject: Re: Town garage
From: SanfordArc@aol.com
Date: Thu, 7 Jul 2005 09:33:42 EDT
To: donaldson@gnavt.net



NEW HAVEN, VERMONT

BOLTON TOWN GARAGE

BOLTON, VERMONT



The new Bolton Town Garage and Salt Shed is on the site of an old barn – the former town garage. The barn was deteriorated beyond repair. The site is highly visible from both I-89 and Rt. 2 and has a major impact on the Winooski River Valley running through Bolton. Design of this new utilitarian building incorporates ideas and elements of traditional Vermont dairy barns within a tight budget. The building is sited with a greenspace between the building and the residential road with neighboring homes. Garage doors, salt shed, outdoor work area, and sand storage are located behind the building to minimize impact on the neighbors. Simple, inexpensive, yet elegant materials, details, and forms are used. The large windows at either end provide natural daylight deep into the building. Careful attention to ventilation, insulation, and drainage are used to provide a highly functional building.



SAND / SALT SHED +

TOWN OF WARREN - TOWN GARAGE STUDY
State Garage Waitsfield VT



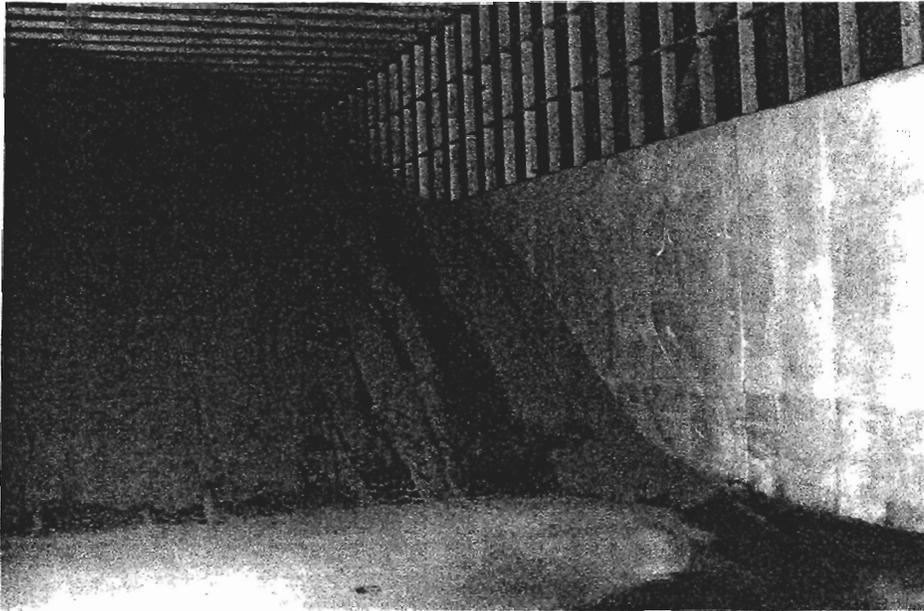
Sand Storage



Sand Storage

**** State estimates \$55 - \$65 per square foot not including site work for the above.**

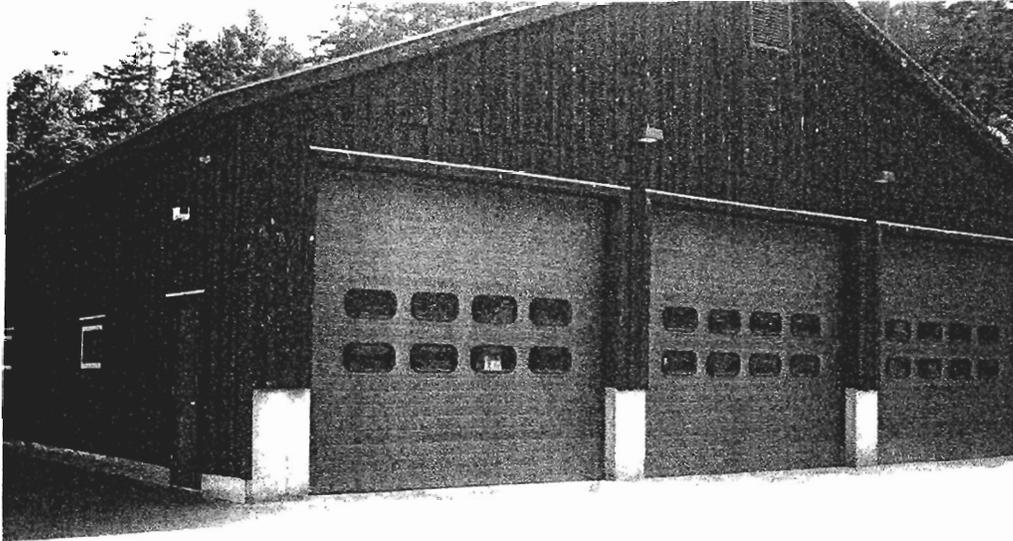
TOWN OF WARREN - TOWN GARAGE STUDY
State Garage Waitsfield VT



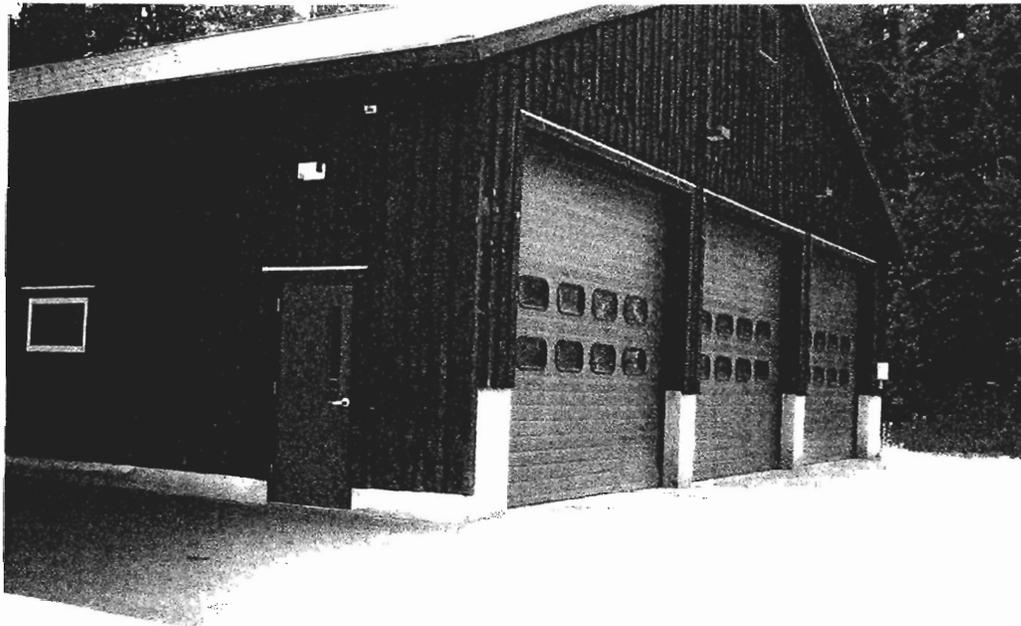
Sand Storage



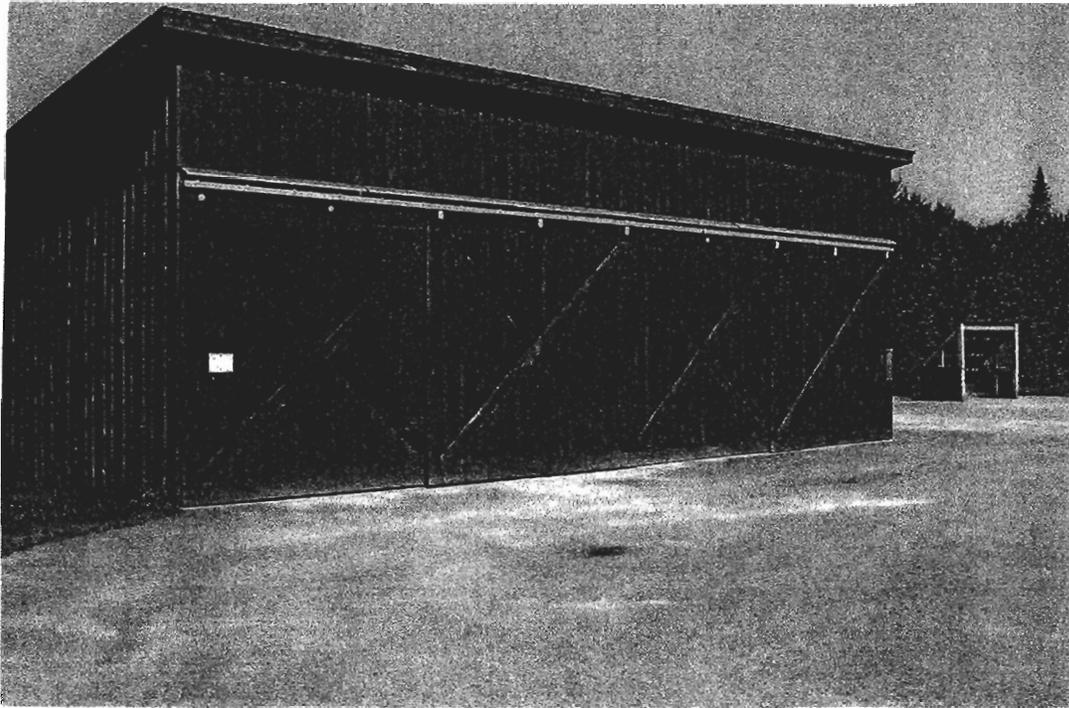
TOWN OF WARREN - TOWN GARAGE STUDY
State Garage Waitsfield VT



Maintenance Garage



TOWN OF WARREN - TOWN GARAGE STUDY
State Garage Waitsfield VT



General Storage

**TOWN OF WARREN
OFFICE OF PLANNING AND ZONING
PO BOX 337
WARREN, VT 05674**

Wednesday August 31, 2005

TO: Planning Commission Members
FR: Staff
RE: VOSHA visit

On Tuesday August 30th we were pleasantly surprised to have Harlo from VOSHA arrive for the WORKSAFE inspection of the Town Garage. Harlo reviewed his findings with Miron and myself, which you will find listed below. His formal written report will not be produced for 30 to 45 days from now. However, having this information will give us a "jump start" on addressing them. I will also note that Harlo complimented the garage staff as doing a good job and that the over all inspection went very well.

Blue Building

1. Cover protecting fan on furnace needs to be replaced
2. All fire extinguishers need to be visually inspected for any damage or discharge on a monthly basis, not just yearly as is currently done
3. Items stored next to furnace not acceptable – find new location for those items
4. Bench grinder needs to be adjusted to correct distance
5. Need additional back up valve on back flow on well
6. Need cover for electrical panel in bathroom (cannot have wires showing)
7. Current access to compressor/filters above bathroom is by means of a broken stepladder – must be replaced with either a fixed ladder or rolling stepladder.
8. Air hose needs to have a 30 PSI safety nozzle
9. Need GFCI

Grey Building

1. Electrical outlet needs faceplate
2. Florescence light mounted on wall to be removed

Grounds

1. All fuel tanks to be identified/labeled
2. All outdoor receptacles need to be water tight

Other

1. PPE (Personal Protective Equipment) Assessment needs to be done
2. HAZCOM Program to be conducted
3. LOCKOUT / TAGOUT Program to be conducted
4. First Aid kits, 1 in Blue building, and small ones in each vehicle
5. Lifting chains that are rated and tagged used just for lifting (not also for towing)
6. Designate a Safety Officer

| Warren Town Garage - CAPITAL COSTS | | | | |
|--|-----------------|---|--------------------|--|
| Construction Estimate 03/22/07 ~ OPTION 1 | | | | |
| Item | Quantity | Unit Cost (Mat'l. & Labor) | Item Cost | Notes |
| Excavation/ Site Work | 5 days | \$1,000/day | \$5,000 | Grading, footing trenches |
| Footing | 215 cu. yds. | \$250/cu.yd. | \$53,750 | 3'-0" x 1'-6" x 1,310 lf |
| Frost Wall | 80 cu. yds. | \$250/cu.yd. | \$20,000 | 4'-0" x 1'-4" x 410 lf |
| Retaining Wall | 580 cu. yds. | \$250/cu.yd. | \$145,000 | 16'-0" x 1'-4" x 740 lf |
| Floor Slab | 435 cu. yds. | \$250/cu.yd. | \$108,750 | 6" slab x 23,500 sf |
| Precast Column | 144 lf | \$300/lf | \$43,200 | 9 columns @ 16' lf |
| Precast Beam | 450 lf | \$350/lf | \$157,500 | 9 beams @ 50 lf |
| Precast Insulated Wall Panel | 504 sf | \$38/sf | \$19,152 | 9 panels @ 56 sf ea. |
| Precast Roof Plank | 12,000 sf | \$16/sf | \$192,000 | 8" x 8' x 19'/36' span |
| Wall Insulation | 7,000 sf | \$1.50/sf | \$10,500 | 2" rigid foam w/ backfill |
| Roof Insulation | 13,000 sf | \$3/sf | \$39,000 | 3" rigid foam |
| Membrane Roof w/ Sod Cover | 13,000 sf | \$2/sf | \$26,000 | Quote Kingsbury Construction Co. of Waitsfield |
| Sand Storage Roof | 7,500 sf | \$25/sf | \$187,500 | Wood frame |
| Sand Storage Sliding Door(s) | 1 | \$8,000 | \$8,000 | sim. to state garage |
| Salt Storage Roof | 1,200 sf | \$25/sf | \$30,000 | Wood frame |
| Salt Storage Sliding Door(s) | 1 | \$2,000 | \$2,000 | sim. to state garage |
| Overhead Door | 9 | \$2,000 | \$18,000 | 12' W x 14' H |
| Electrical | 24,500 sf | \$5/sf | \$122,500 | |
| Plumbing | 15,800 sf | \$3/sf | \$47,400 | |
| HVAC | 15,800 sf | \$6/sf | \$94,800 | |
| Blue Bldg. - move as service bay | n/a | n/a | \$50,000 | |
| Gray Bldg. - move to bus storage | n/a | n/a | \$50,000 | |
| Fuel Tank | 1 | | \$12,490 | 1000 gal. 54" FireGuard UL2085 Aboveground Storage Tank by Fitzsimmons Systems Inc., includes setup price for diesel application |
| Thermal Solar | 9 | \$9,000 | \$54,000 | System with 300 gallon storage tank, (6) 4x10 collectors |
| Total | | | \$1,496,542 | Preliminary Estimate |

Option One uses the existing site for the placement of precast concrete buildings to serve as a garage and service area. A new concrete/wood sand a salt storage will be built. The blue steel building will be moved and reused as a service bay. The Gray steel building will be moved to the school and reused as bus storage.

Warren Town Garage - CAPITAL COSTS

Construction Estimate 03/22/07 ~ OPTION 2

| Item | Quantity | Unit Cost (Mat'l. & Labor) | Item Cost | Notes |
|----------------------------------|--------------|-------------------------------|--------------------|--|
| Excavation/ Site Work | 12 days | \$1,000/day | \$12,000 | ledge? Grading, footing trenches |
| Culvert | 180 lf | \$200/lf | \$36,000 | needs permit |
| Footing | 195 cu. yds. | \$250/cu.yd. | \$48,750 | 3'-0" x 1'-6" x 1,180 lf |
| Frost Wall | 80 cu. yds. | \$250/cu.yd. | \$20,000 | 4'-0" x 1'-4" x 420 lf |
| Retaining Wall | 520 cu. yds. | \$250/cu.yd. | \$130,000 | 16'-0" x 1'-4" x 650 lf |
| Floor Slab | 365 cu. yds. | \$250/cu.yd. | \$91,250 | 6" slab x 19,800 sf |
| Precast Column | 144 lf | \$300/lf | \$43,200 | 9 columns @ 16' lf |
| Precast Beam | 450 lf | \$350/lf | \$157,500 | 9 beams @ 50 lf |
| Precast Insulated Wall Panel | 504 sf | \$38/sf | \$19,152 | 9 panels @ 56 sf ea. |
| Precast Roof Plank | 12,000 sf | \$16/sf | \$192,000 | 8" x 8' x 19'/36' span |
| Wall Insulation | 7,000 sf | \$1.50/sf | \$10,500 | 2" rigid foam w/ backfill |
| Roof Insulation | 12,000 sf | \$3/sf | \$36,000 | 3" rigid foam |
| Membrane Roof w/ Sod Cover | 12,000 sf | \$2/sf | \$24,000 | waterproof membrane, 12" sod |
| Sand Storage Roof | 7,500 sf | \$25/sf | \$187,500 | Wood frame |
| Sand Storage Sliding Door(s) | 1 | \$8,000 | \$8,000 | sim. to state garage |
| Salt Storage Roof | 1,200 sf | \$25/sf | \$30,000 | Wood frame |
| Salt Storage Sliding Door(s) | 1 | \$2,000 | \$2,000 | sim. to state garage |
| Overhead Door | 9 | \$2,000 | \$18,000 | 12' W x 14' H |
| Electrical | 20,700 sf | \$5/sf | \$103,500 | |
| Plumbing | 12,000 sf | \$3/sf | \$36,000 | |
| HVAC | 12,000 sf | \$6/sf | \$72,000 | |
| Blue Bldg. - move/sell/scrap | n/a | n/a | \$30,000 | |
| Gray Bldg. - move to bus storage | n/a | n/a | \$50,000 | |
| Well Drilling and pump | n/a | n/a | \$5,515 | price from Chevalier Drilling Co, Inc. bid for 300' well |
| Fuel Tank | 1 | | \$12,490 | 1000 gal. 54" FireGuard UL2085 Aboveground Storage Tank by Fitzsimmons Systems Inc., includes setup price for diesel application |
| Septic Pipe | 200lf | \$25/lf | \$1,000 | 4" |
| Septic Tank | 1 | \$500/ea | \$500 | |
| Leach Field | | | \$1,000 | Quote Kingsbury Construction Co. of |
| Grease Trap | | | \$3,000 | Waitsfield for Gravity System |
| Thermal Solar | 9 | \$9,000 | \$54,000 | System with 300 gallon storage tank, (6) 4x10 collectors |
| Total | | | \$1,434,857 | Preliminary Estimate |

Option Two uses the site across School Road from the existing site for the placement of precast concrete buildings to serve as a garage and service area. A new concrete/wood sand and salt storage will be built. A new well will be drilled and wastewater tied into municipal sewer. The existing site may be developed as a residential neighborhood. The blue building will be sold or scrapped and the gray building will be moved to the school and used as bus storage.

| Warren Town Garage - CAPITAL COSTS | | | | |
|--|-----------------|--------------------------------------|--------------------|--|
| Construction Estimate 03/22/07 ~ OPTION 3 | | | | |
| Item | Quantity | Unit Cost (Mat'l & Labor) | Item Cost | Notes |
| Excavation/Site Work | 5 Days | \$1,000/day | \$5,000 | minimal sitework req'd |
| Footing | 215 cu. yds. | \$250/cu.yd. | \$53,750 | 3'-0" x 1'6" x 1,180 lf |
| Frost Wall | 80 cu. yds. | \$250/cu.yd. | \$20,000 | 4'-0" x 1'-4" x 420 lf |
| Retaining Wall | 580 cu. yds. | \$250/cu.yd. | \$145,000 | 16'-0" x 1'-4" x 740 lf** |
| Floor Slab | 435 cu. yds. | \$250/cu.yd. | \$108,750 | 6" slab x 19,800 sf |
| Erect Steel Structure | 13,000 sf | \$4/sf | \$52,000 | |
| Openings - Doors, Windows in Steel | | add'l 15% | \$7,800 | |
| Wall Insulation | 7000 sf | \$1.50/sf | \$10,500 | 2" rigid foam w/ backfill |
| Roof Insulation | 13,000 sf | \$3/sf | \$39,000 | 3" rigid foam |
| Sand Storage Roof | 7,500 sf | \$25/sf | \$187,500 | Wood frame |
| Sand Storage Sliding Door(s) | 1 | \$8,000 | \$8,000 | sim. to state garage |
| Salt Storage Roof | 1,200 sf | \$25/sf | \$30,000 | Wood frame |
| Salt Storage Sliding Door(s) | 1 | \$2,000 | \$2,000 | sim. to state garage |
| Overhead Door | 9 | \$2,000 | \$18,000 | 12'W x 14'H |
| Electrical | 24,500 sf | \$5/sf | \$122,500 | |
| Plumbing | 15,800 sf | \$3/sf | \$47,400 | |
| HVAC | 15,800 sf | \$6/sf | \$94,800 | |
| Blue Bldg. - move as service bay | n/a | n/a | \$50,000 | |
| Gray Bldg. - move to bus storage | n/a | n/a | \$50,000 | |
| Fuel Tank | | | \$12,490 | 1000 gal. 54" FireGuard UL2085 Aboveground Storage Tank by Fitzsimmons Systems Inc., includes setup price for diesel application |
| Thermal Solar | 9 | \$9,000 | \$54,000 | System with 300 gallon storage tank, (6) 4x10 collectors |
| Total | | | \$1,118,490 | Preliminary Estimate |

Option Three uses the existing site for the erection of new steel buildings to serve as a garage and service area, site plan similar to Option One. The blue steel building will be moved and reused as a service bay. The Gray steel building may be moved and reused, or may be moved to the school as bus storage.

[** Retaining wall may not be necessary if buildings can be pulled away from slope.]

Warren Town Garage Breakdown of Phases

OPTION ONE ~ Phase-1

| Item | Quantity | Unit Cost (Mat'l. & Labor) | Item Cost | Notes |
|----------------------------------|--------------|----------------------------|------------------|--|
| Excavation/ Site Work | 2 days | \$1,000/day | \$2,000 | minimal sitework req'd |
| Footing | 119 cu. yds. | \$250/cu.yd. | \$29,750 | 3'-0" x 1'-6" x 720 lf |
| Frost Wall | 41 cu. yds. | \$250/cu.yd. | \$10,250 | 4'-0" x 1'-4" x 210 lf |
| Retaining Wall | 362 cu. yds. | \$250/cu.yd. | \$90,500 | 16'-0" x 1'-4" x 460 lf |
| Floor Slab | 213 cu. Yds. | \$250/cu.yd. | \$53,250 | 6" slab x 11500 |
| Wall Insulation | 3095 sf | \$1.50/sf | \$4,643 | 2" rigid foam w/ backfill |
| Sand Storage Roof | 7,500 sf | \$25/sf | \$187,500 | Wood frame |
| Sand Storage Sliding Door(s) | 1 | \$8,000 | \$8,000 | sim. to state garage |
| Salt Storage Roof | 1,200 sf | \$25/sf | \$30,000 | Wood frame |
| Salt Storage Sliding Door(s) | 1 | \$2,000 | \$2,000 | sim. to state garage |
| Electrical | 11500 sf | \$5/sf | \$57,500 | |
| Plumbing | 2800 sf | \$3/sf | \$8,400 | |
| HVAC | 2800 sf | \$6/sf | \$16,800 | |
| Blue Bldg. - move as service bay | n/a | n/a | \$50,000 | |
| Fuel Tank | 1 | | \$12,490 | 1000 gal. 54" FireGuard UL2085 Aboveground Storage Tank by Fitzsimmons Systems Inc., includes setup price for diesel application |
| Total for Phase-1 | | | \$563,083 | Preliminary Estimate |

39500

OPTION ONE ~ Phase-2

| Item | Quantity | Unit Cost (Mat'l. & Labor) | Item Cost | Notes |
|------------------------------|-------------|----------------------------|------------------|------------------------------|
| Excavation/ Site Work | 1 days | \$1,000/day | \$1,000 | minimal sitework req'd |
| Footing | 27 cu. yds. | \$250/cu.yd. | \$6,750 | 3'-0" x 1'-6" x 170 lf |
| Frost Wall | 17 cu. yds. | \$250/cu.yd. | \$4,250 | 4'-0" x 1'-4" x 85 lf |
| Retaining Wall | 66 cu. yds. | \$250/cu.yd. | \$16,500 | 16'-0" x 1'-4" x 85 lf |
| Floor Slab | 94 cu. yds. | \$250/cu.yd. | \$23,500 | 6" slab x6900 sf |
| Precast Column | 64 lf | \$300/lf | \$19,200 | 4 columns @ 16' lf |
| Precast Beam | 200 lf | \$350/lf | \$70,000 | 4 beams @ 50 lf |
| Precast Insulated Wall Panel | 224 sf | \$38/sf | \$8,512 | 4 panels @ 56 sf ea. |
| Precast Roof Plank | 5100 sf | \$16/sf | \$81,600 | 8" x 8' x 19/36' span |
| Wall Insulation | 1190 sf | \$1.50/sf | \$1,785 | 2" rigid foam w/ backfill |
| Roof Insulation | 5100 sf | \$3/sf | \$15,300 | 3" rigid foam |
| Membrane Roof w/ Sod Cover | 5100 sf | \$2/sf | \$10,200 | waterproof membrane, 12" sod |
| Electrical | 5100 sf | \$5/sf | \$25,500 | |
| Plumbing | 5100 sf | \$3/sf | \$15,300 | |
| HVAC | 5100 sf | \$6/sf | \$30,600 | |
| Total for Phase-2 | | | \$329,997 | Preliminary Estimate |

Phase Two includes adding four precast concrete bays on the west side.

OPTION ONE ~ Phase-3

| Item | Quantity | Unit Cost (Mat'l. & Labor) | Item Cost | Notes |
|----------------------------------|--------------|----------------------------|------------------|--|
| Excavation/ Site Work | 2 days | \$1,000/day | \$2,000 | minimal sitework req'd |
| Footing | 69 cu. yds. | \$250/cu.yd. | \$17,250 | 3'-0" x 1'-6" x 309 lf |
| Frost Wall | 22 cu. yds. | \$250/cu.yd. | \$5,500 | 4'-0" x 1'-4" x 115 lf |
| Retaining Wall | 152 cu. yds. | \$250/cu.yd. | \$38,000 | 16'-0" x 1'-4" x 194 lf |
| Floor Slab | 128 cu. yds. | \$250/cu.yd. | \$32,000 | 6" slab x 5100sf |
| Precast Column | 80 lf | \$300/lf | \$24,000 | 5 columns @ 16' lf |
| Precast Beam | 250 lf | \$350/lf | \$87,500 | 5 beams @ 50 lf |
| Precast Insulated Wall Panel | 280 sf | \$38/sf | \$10,640 | 5 panels @ 56 sf ea. |
| Precast Roof Plank | 8900 sf | \$13/sf | \$110,400 | 8" x 8' x 19/36' span |
| Wall Insulation | 2715 sf | \$1.50/sf | \$4,073 | 2" rigid foam w/ backfill |
| Roof Insulation | 7900 sf | \$3/sf | \$23,700 | 3" rigid foam |
| Membrane Roof w/ Sod Cover | 7900 sf | \$2/sf | \$15,800 | waterproof membrane, 12" sod |
| Overhead Door | 9 | \$2,000 | \$18,000 | 12' W x 14' H |
| Electrical | 7900 sf | \$5/sf | \$39,500 | |
| Plumbing | 7900 sf | \$3/sf | \$23,700 | |
| HVAC | 7900 sf | \$6/sf | \$47,400 | |
| Gray Bldg. - move to bus storage | n/a | n/a | \$50,000 | |
| Thermal Solar | 9 | \$9,000 | \$54,000 | System with 300 gallon storage tank, (6) 4x10 collectors |
| Total for Phase-3 | | | \$603,463 | Preliminary Estimate |

Phase Three includes completing the remaining precast concrete buildings to be used as an office area and for the additional garage bays.

TOTAL COST FOR OPTION ONE \$1,496,542

| Warren Town Garage - Breakdown of Phases | | | | |
|--|--------------|----------------------------------|--------------------|---|
| OPTION TWO ~ Phase-1 (Sand & Salt Storage) | | | | |
| Item | Quantity | Unit Cost (Mat'l. & Labor) | Item Cost | Notes |
| Excavation/ Site Work | 3 days | \$1,000/day | \$3,000 | Grade w/ temp. access |
| Footing | 82 cu. yds. | \$250/cu.yd. | \$20,500 | 3'-0" x 1'-6" x 500 lf |
| Frost Wall | 28 cu. yds. | \$250/cu.yd. | \$7,000 | 4'-0" x 1'-4" x 150 lf |
| Retaining Wall | 276 cu. yds. | \$250/cu.yd. | \$69,000 | 16'-0" x 1'-4" x 350 lf |
| Floor Slab | 153 cu. Yds. | \$250/cu.yd. | \$38,250 | 6" slab x 8300 sf |
| Sand Storage Roof | 7,500 sf | \$25/sf | \$187,500 | Wood frame |
| Sand Storage Sliding Door(s) | 1 | \$8,000 | \$8,000 | sim. to state garage |
| Salt Storage Roof | 1200 sf | \$25/sf | \$30,000 | Wood frame |
| Salt Storage Sliding Door(s) | 1 | \$2,000 | \$2,000 | sim. to state garage |
| Electrical | 8700 sf | \$5/sf | \$43,500 | |
| Total for Phase-1 | | | \$408,750 | Preliminary Estimate |
| <i>Phase One includes building the new sand/salt storage for use while the existing site continues operation.</i> | | | | |
| <i>* culvert not included in this phase, need to create temporary second entrance</i> | | | | |
| OPTION TWO ~ Phase-2 (Main Garage) | | | | |
| Item | Quantity | Unit Cost (Mat'l. & Labor) | Item Cost | Notes |
| Excavation/ Site Work | 9 days | \$1,000/day | \$9,000 | Excavation & grading |
| Culvert | 180 lf | \$200/lf | \$36,000 | needs permit |
| Well Drilling and pump | n/a | n/a | \$5,515 | price from Chevalier Drilling Co, Inc. bid for 300' well |
| Footing | 113 cu. yds. | \$250/cu.yd. | \$28,250 | 3'-0" x 1'-6" x 680 lf |
| Frost Wall | 52 cu. yds. | \$250/cu.yd. | \$13,000 | 4'-0" x 1'-4" x 270 lf |
| Retaining Wall | 244 cu. yds. | \$250/cu.yd. | \$61,000 | 16'-0" x 1'-4" x 300 lf |
| Floor Slab | 212 cu. yds. | \$250/cu.yd. | \$53,000 | 6" slab x 11500 sf |
| Precast Column | 144 lf | \$300/lf | \$43,200 | 9 columns @ 16' lf |
| Precast Beam | 450 lf | \$350/lf | \$157,500 | 9 beams @ 50 lf |
| Precast Insulated Wall Panel | 504 sf | \$38/sf | \$19,152 | 9 panels @ 56 sf ea. |
| Precast Roof Plank | 12,000 sf | \$16/sf | \$192,000 | 8" x 8' x 19'/36' span |
| Membrane Roof w/ Sod Cover | 12,000 sf | \$2/sf | \$24,000 | waterproof membrane, 12" sod |
| Wall Insulation | 7000 sf | \$1.50/sf | \$10,500 | 2" rigid foam w/ backfill |
| Roof Insulation | 12000 sf | \$3/sf | \$36,000 | 3" rigid foam |
| Electrical | 12000 sf | \$5/sf | \$60,000 | |
| Plumbing | 12000 sf | \$3/sf | \$36,000 | |
| HVAC | 12000 sf | \$6/sf | \$72,000 | |
| Overhead Door | 9 | \$2,000 | \$18,000 | |
| Blue Bldg. - move/sell/scrap | n/a | n/a | \$30,000 | |
| Gray Bldg. - move to bus storage | n/a | n/a | \$50,000 | |
| Fuel Tank | 1 | | \$12,490 | 1000 gal. 54" FireGuard UL2085 Aboveground Storage Tank by Fitzsimmons Systems Inc., includes setup price for diesel application |
| Septic Pipe | 200lf | \$25/lf | \$1,000 | 4" |
| Septic Tank | 1 | \$500/ea | \$500 | Quote Kingsbury Construction Co. of |
| Leach Field | | | \$1,000 | Waitsfield for Gravity System [OR |
| Grease Trap | | | \$3,000 | TIE INTO MUNICIPAL SEWER] |
| Thermal Solar | 9 | \$9,000 | \$54,000 | System with 300 gallon storage tank, (6) 4x10 collectors |
| Total for Phase-2 | | | \$1,026,107 | Preliminary Estimate |
| <i>Phase Two includes constructing the entire precast concrete structure for garage bays and building the culvert to contain</i> | | | | |
| TOTAL COST FOR OPTION TWO | | | \$1,434,857 | |

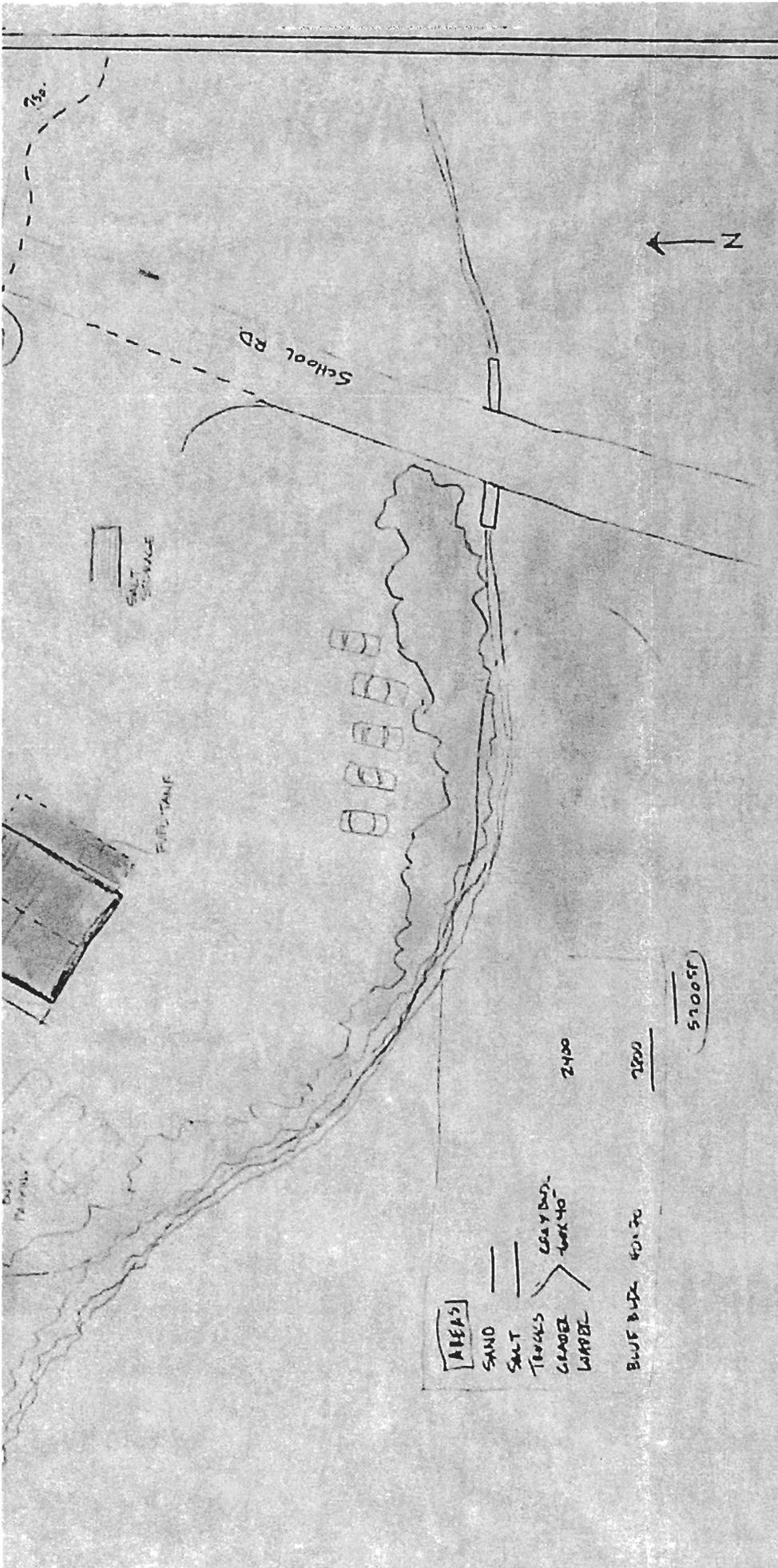
Warren Town Garage
Comparison of Life Cycle Costs - 12/1/06, REV 3/22/07, 4/16/07

| Phase | Existing Garages | Option 1 - current site, concrete | Option 2 - across the street, concrete | Option 3 - steel structure |
|-----------------------------------|-------------------|--|---|---|
| Materials and Construction | n/a/n/a | \$1,496,542 See Sheet 3 | \$1,434,957 See Sheet 4 | \$1,118,490 See Sheet 5 |
| 1 Year Building Operating Costs | \$7,300 town hall | \$12,270 Total from below .075% of total M&C cost | \$9,822 Total from below .075% of total M&C cost | \$24,356 Total from below 3% of total M&C cost |
| 1 Year Building Maintenance Costs | n/a/n/a | \$1,122 cost | \$1,076 cost | \$3,355 cost |
| 25 Year Maintenance and Operating | n/a/n/a | \$334,815 25 years | \$272,469 25 years | \$692,781 25 years |
| 25 Year Replacement Costs * | n/a/n/a | n/a | n/a | \$86,500 |
| 25 Year Life Cycle Cost | n/a/n/a | \$1,831,357 sum of M&C + (O&M costs * 25 years) | \$1,707,313 sum of M&C + (O&M costs * 25 years) | \$1,897,771 sum of M&C + (O&M costs * 25 years) + Bldg. Replacement |

| Replacement Costs | |
|-------------------|--------------|
| Sheet Metal | 40000 |
| Wall Insulation | 10500 |
| Roof Insulation | 36000 |
| Total | 86500 |

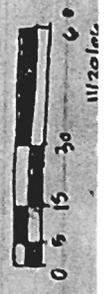
| Building Operations | Current | Option 1 | Option 2 | Option 3 |
|-------------------------------|---------------------|--|-------------------------------|-----------------------------|
| Heating Fuel | \$6,000 town hall | \$6,381 increase | \$4,846 ratio*65%eff increase | \$18,231 current*size ratio |
| Electricity for Lighting | \$200 electricity | \$707 increase | \$597 ratio*25%eff increase | \$942 current*size ratio |
| Electricity for Other | \$1,100 electricity | \$5,183 current*size ratio | \$4,379 current*size ratio | \$5,183 current*size ratio |
| Total Operating Cost | \$7,300 | \$12,270 | \$9,822 | \$24,356 |
| 25 Year Total | n/a | \$306,755 | \$245,553 | \$608,894 |
| % Energy Price Increase* | n/a | \$306,755 | \$245,553 | \$608,894 |
| Energy Increase over 25 years | 1.00 | <<< enter anticipated 25-yr. average energy price increase here!!! | | |

| Area | Current SF | Option 1 SF | Option 2 SF | Option 3 SF |
|--------------------------------|------------|-------------|-------------|-------------|
| Total Area (Heat) | 5,200 | 15,800 | 12,000 | 15,800 |
| Total Area (Elec.) | 5,200 | 24,500 | 20,700 | 24,500 |
| % Increase in Area (Heat) | n/a | 304% | 231% | 304% |
| % Increase in Area (Elec.) | n/a | 471% | 398% | 471% |
| Area Ratio to Existing (Heat) | n/a | 3.04 | 2.31 | 3.04 |
| Area Ratio to Existing (Elec.) | n/a | 4.71 | 3.98 | 4.71 |

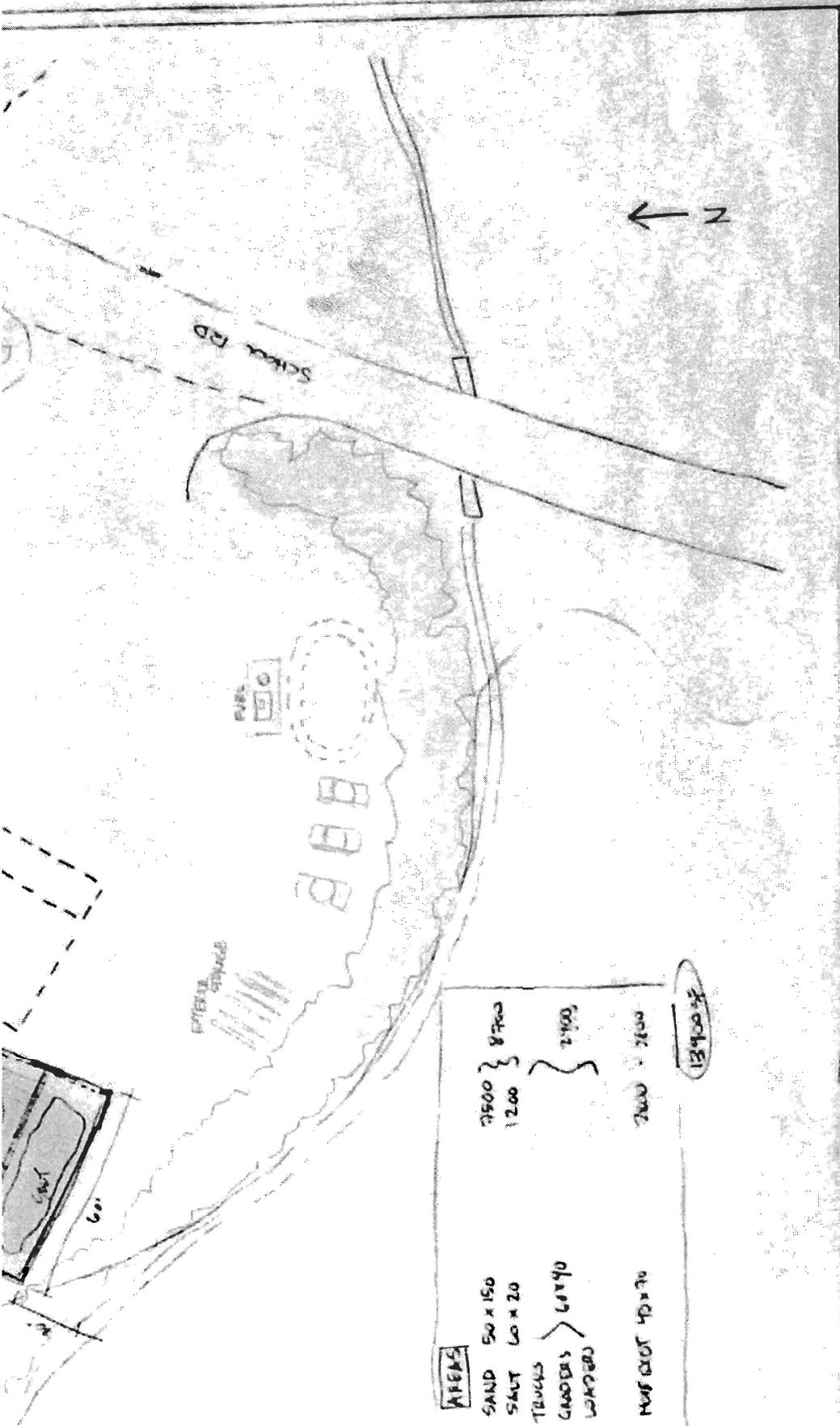


EXISTING

WARREN TOWN PLAN



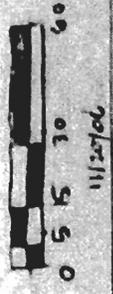
11/20/12



| AREAS | 7500 | 8700 | 2100 | 2600 | 3100 | 13400 ± |
|------------------|------|------|------|------|------|---------|
| SAND 50 x 150 | | | | | | |
| SALT 60 x 20 | | | | | | |
| TRUCKS | | | | | | |
| GRADERS | | | | | | |
| LOADERS | | | | | | |
| PAVEMENT 40 x 70 | | | | | | |

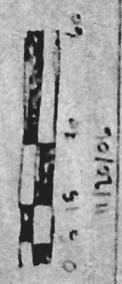
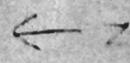
WARREN TOWN GARAGE

SITE PLAN

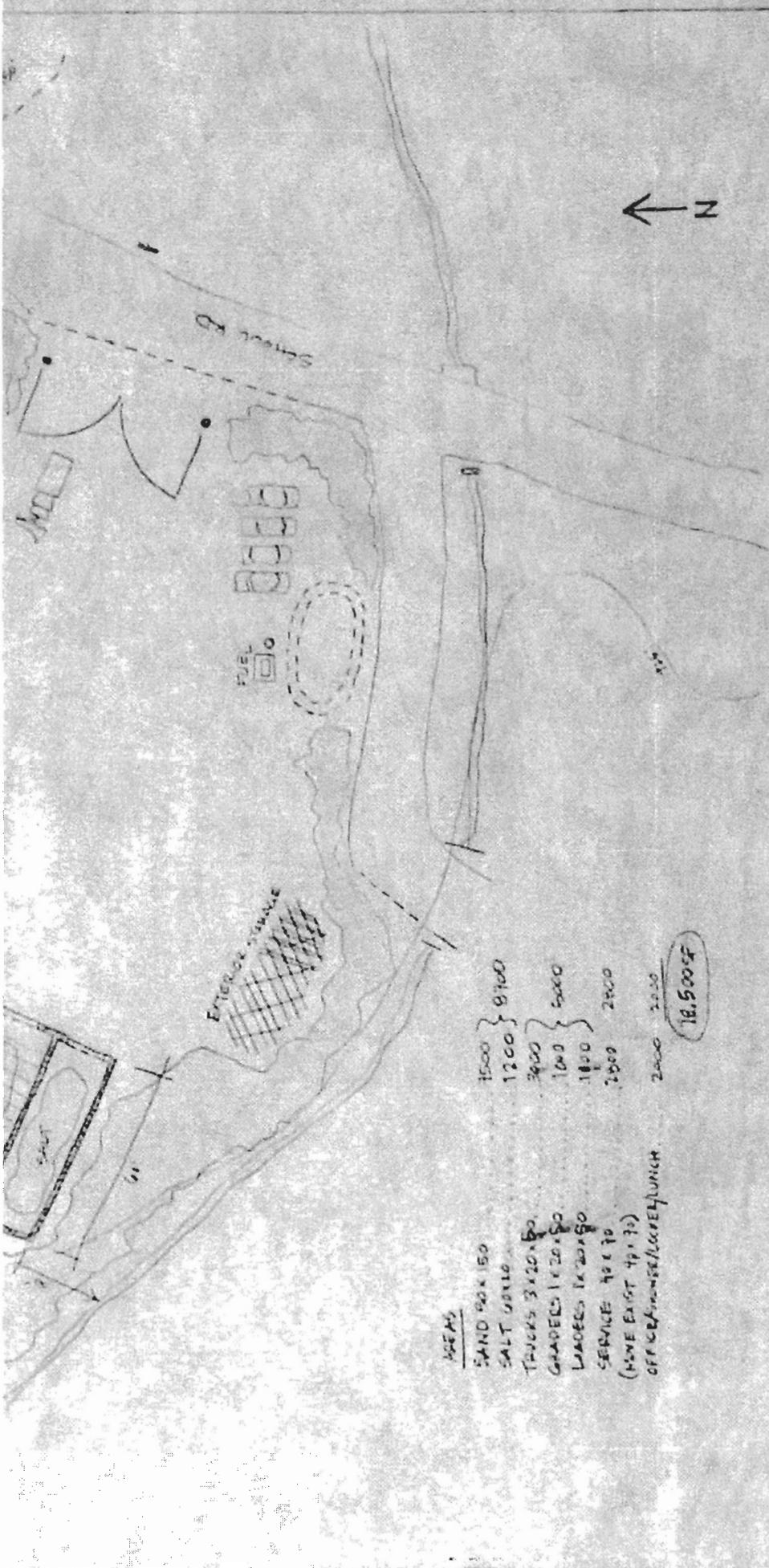




| | |
|-------------------------------|------------------|
| ITEMS | |
| SAND 30 x 150 | 7500 |
| SALT 20 x 20 | 200 |
| TRUCKS 31 20 x 40, 21 20 x 40 | 1700 |
| SEALING 1 800 x 20 | 7500 |
| WATER 1 25 x 60 | 1500 |
| SEWER TO 75 | 250 |
| (MORE EXISTING) | |
| | <u>19,000 SF</u> |



WARREN TOWNING ARRANGE SITELAN



ITEMS

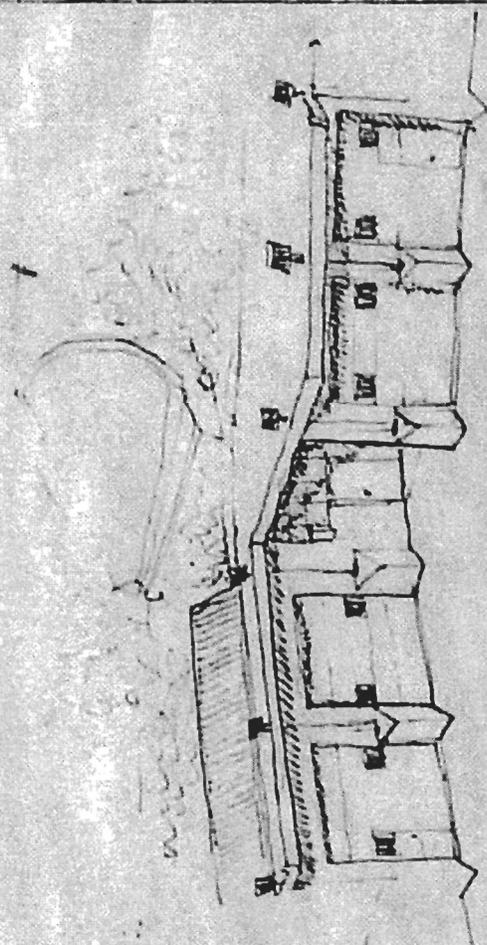
| | | | |
|-----------------------|------|---|-----------------|
| SAND 50X 150 | 1500 | } | 9700 |
| SALT 40X10 | 1200 | | |
| TRUCKS 3 X 20' 50 | 3000 | } | 5000 |
| GRADES 1 X 20' 50 | 1000 | | |
| LOADERS 1 X 20' 50 | 1000 | | |
| SERVICE 40 X 70 | 2500 | | 2500 |
| (HAVE EAST 40' 70') | | | |
| OFFICE/STORAGE/REPAIR | 2000 | | 2000 |
| | | | 18,500\$ |

WARREN TOWN ° G A R R A G E ° S I T E ° P L A N °



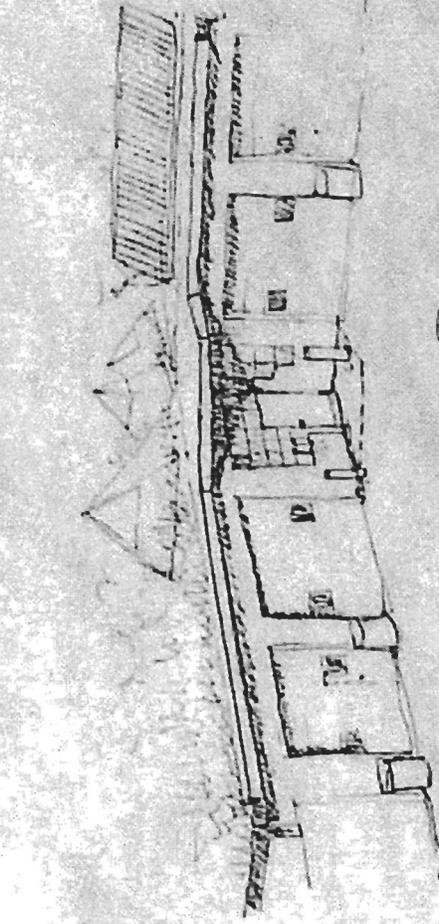
| | | |
|--|---|--|
| <p>ITEMS</p> <p>SAND 90x150</p> <p>SOIL 60x20</p> <p>TRUNKS 5x30x10</p> <p>GRAVELS 2x10x10</p> <p>LOGS 75x100</p> <p>CEMENT 20x10</p> <p>(CONE AND) 10x20</p> <p>PIPE/SANDY WOOD/BRICK</p> <p>5x10x10 LEVEL</p> | <p>7500</p> <p>1200</p> <p>5000</p> <p>7700</p> <p>500</p> <p>1200</p> <p>2000</p> <p>2000</p> <p>2000</p> <p>22700</p> | <p>8700</p> <p>8900</p> <p>2600</p> <p>2000</p> <p>2000</p> <p>22700</p> |
|--|---|--|

WARREN TOWN PLAN



A

WOODEN TOWN GARAGE

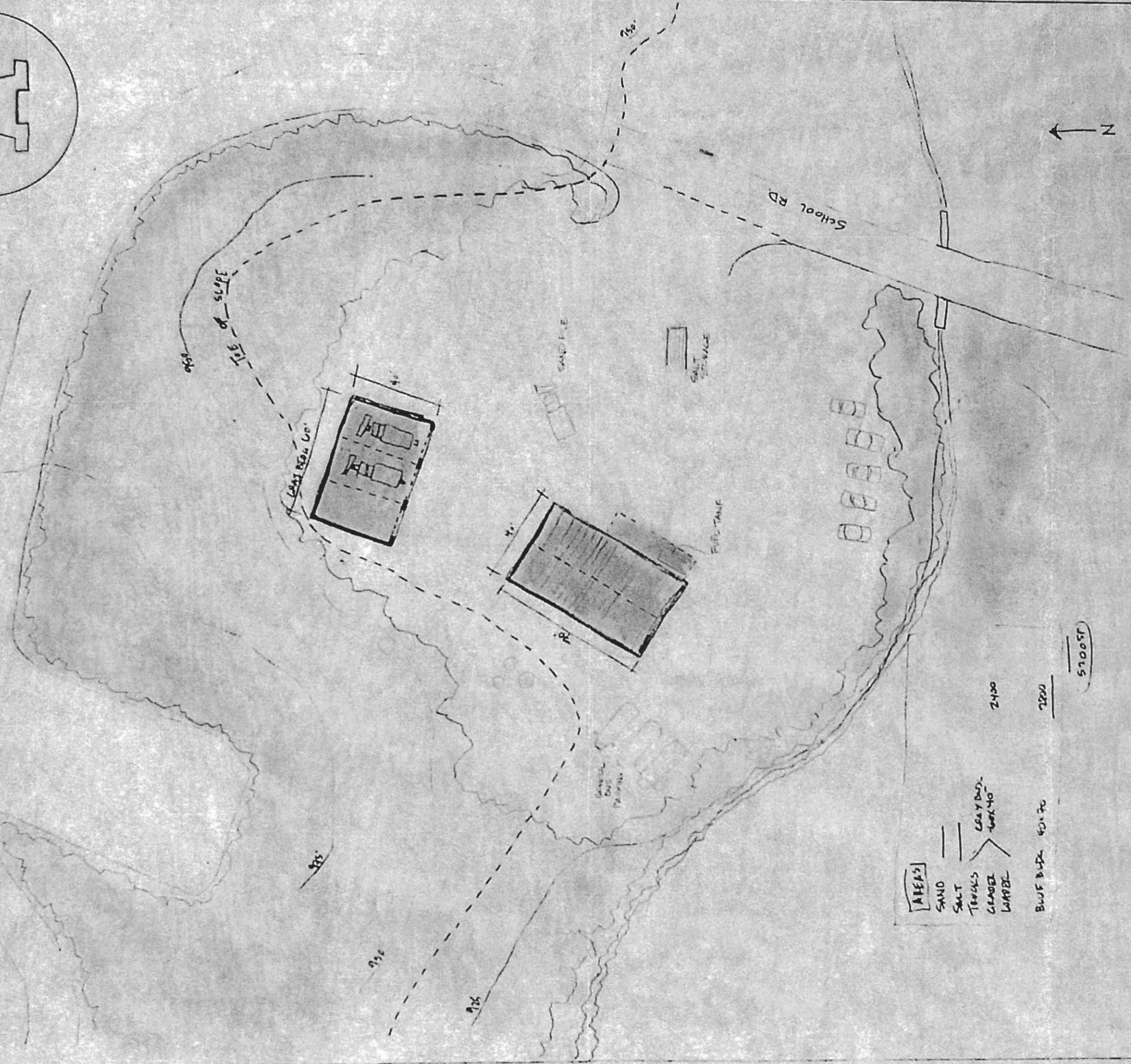
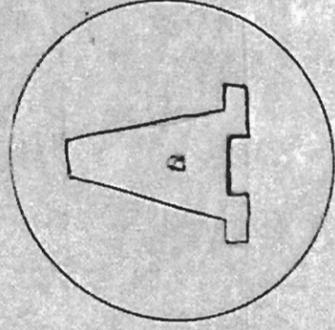


B

WOODEN TOWN GARAGE

WARREN TOWN GARAGE

11/10/21



| | |
|-----------|------|
| AREA | |
| SAND | 2400 |
| SALT | 2200 |
| TRUCKS | |
| GRAVEL | |
| LAND | |
| BLUE BIRD | 4000 |
| | 5700 |

EXISTING

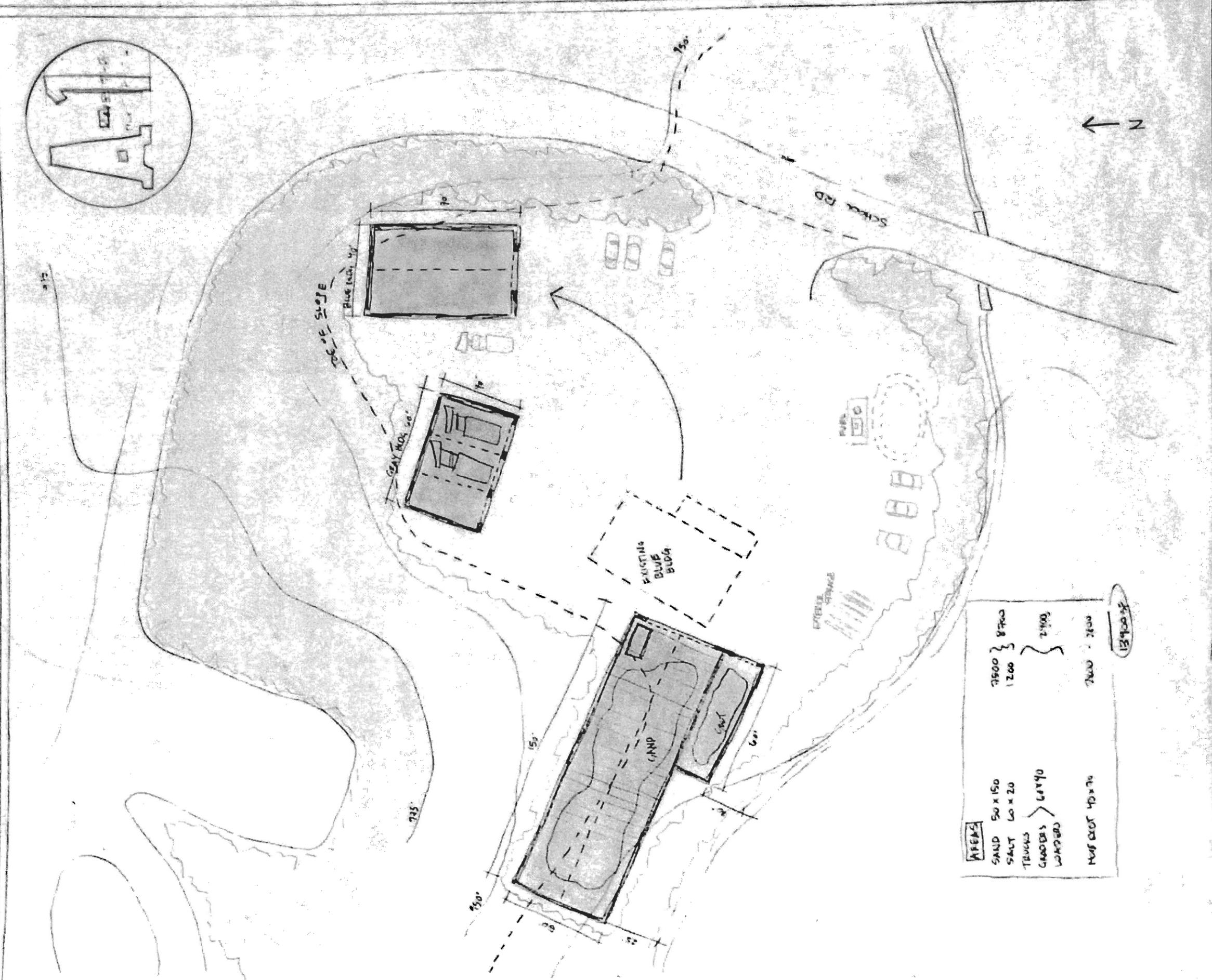
WARREN TOWN GARRAGE

SITE PLAN



1/2" = 10'

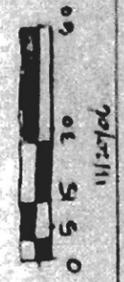
A1



| AREAS | | 73500 | 8700 | 2100 | 700 - 2000 | 13400 |
|---------|----------|-------|------|------|------------|-------|
| SAND | 50 x 150 | } | } | } | } | } |
| SALT | 60 x 20 | | | | | |
| TRUCKS | | | | | | |
| CRADLES | | | | | | |
| LOADERS | | | | | | |
| TOTAL | | | | | | |

WARREN TOWN GARRAGE

SITE PLAN



A-2



| ITEMS | 7500 | 1000 | 7500 |
|--------------------------|------|------|-----------|
| SAND 50 x 150 | | | |
| GRAVEL 100 x 20 | | | |
| TRUCKS 3120 x 1120 x 160 | | | |
| GEAR 1000 x 20 | | | |
| WATER 125 x 10 | | | |
| SEWER 20 x 20 | | | |
| (MATERIALS) | | | |
| | | | 10,000 SF |

WARREN TOWN GARAGE
 SITE PLAN



A-3



| | | |
|--------------------|-------|-----------|
| <u>MEAS</u> | 15000 | 9700 |
| SAND 50x150 | 1200 | |
| SALT 10x10 | 3000 | 5000 |
| TRUCKS 3'x20'x50' | 1000 | |
| GRAVELS 1'x20'x50' | 1800 | 2400 |
| LOADERS 1x20'x50' | 2500 | |
| SERVICE 40x70 | | 2000 |
| (MOVE EAST 40x70) | | 2000 |
| OFFICE 10x10x10 | | 18,500 SF |
| LUNCH | | |

WARREN TOWN ° GARRAGE °
 ° S I T E ° P L A N °

A-4



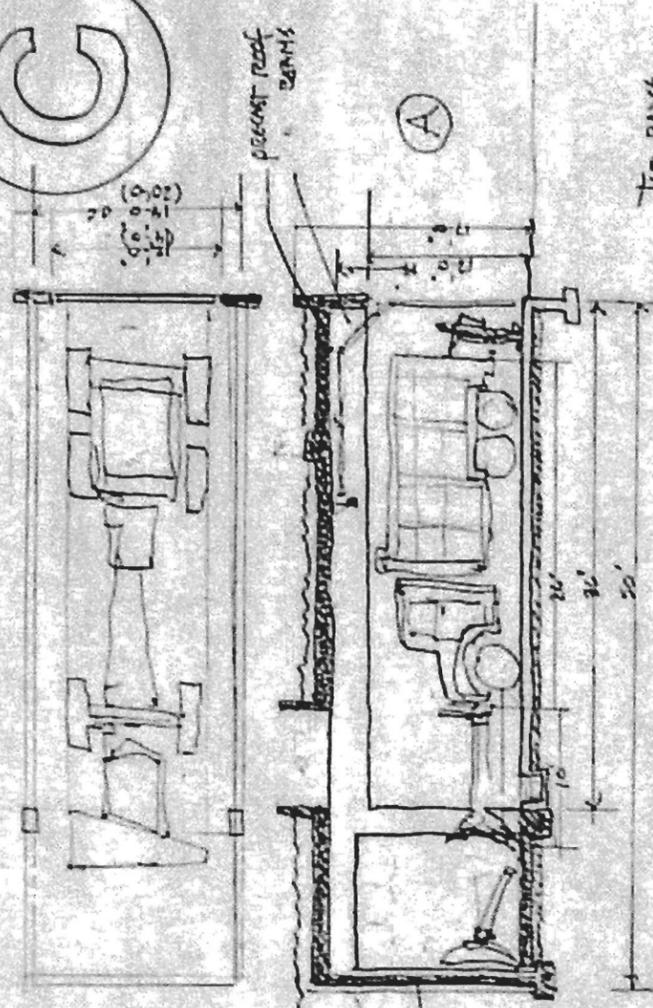
AREA

| | | |
|----------------------|------|-------|
| SAND BOX 150 | 7500 | 8100 |
| SHED 60 X 70 | 1200 | |
| TRUCKS 51 X 30 X 63 | 5000 | |
| CONCRETE 2 X 10 X 10 | 7500 | 8100 |
| WATER 75 X 10 | 500 | |
| OFFICE 10 X 10 | 1200 | 1600 |
| ONE BAY 10 X 10 | 2000 | 1600 |
| ONE BAY 10 X 10 | 2000 | 1600 |
| SUMMARY TOTAL | 2000 | 1600 |
| | | 22400 |

WARREN TOWN PLAN
S I T E P L A N

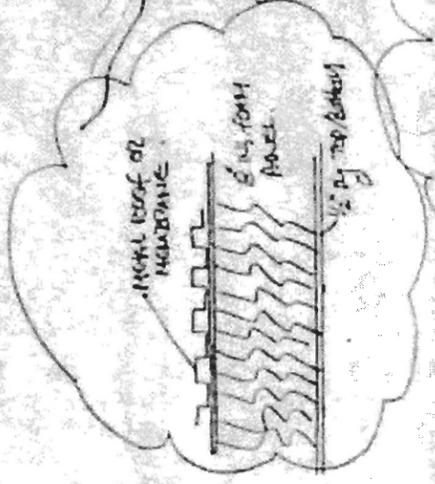
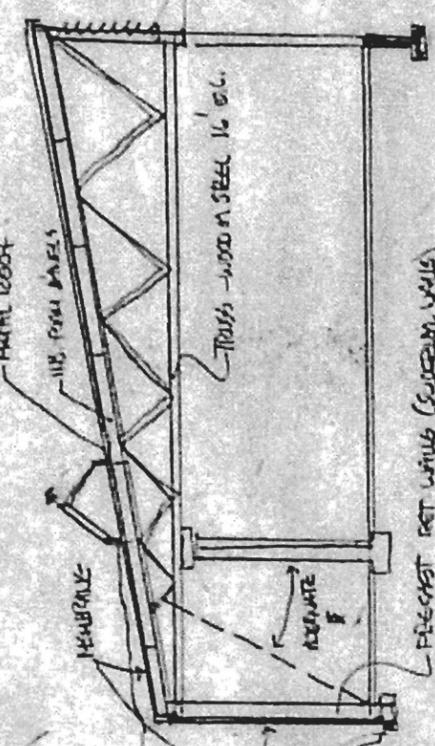


C

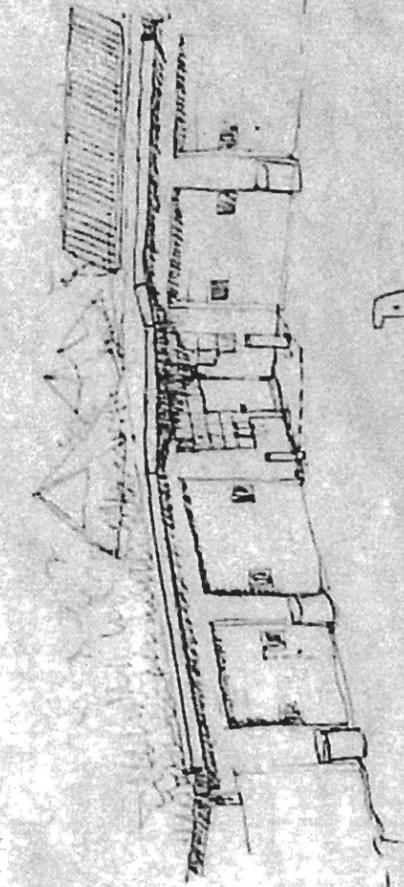
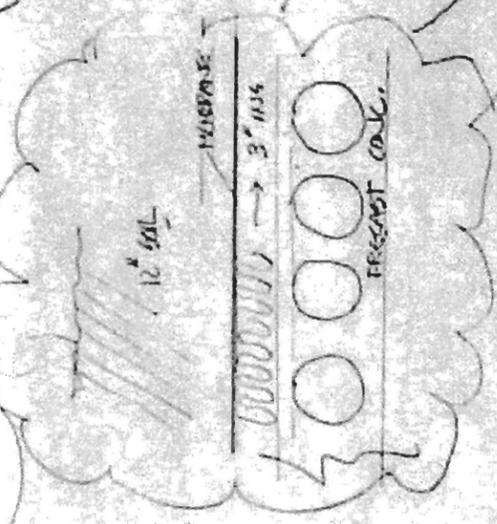


Top. Bays
14'0" x 50'

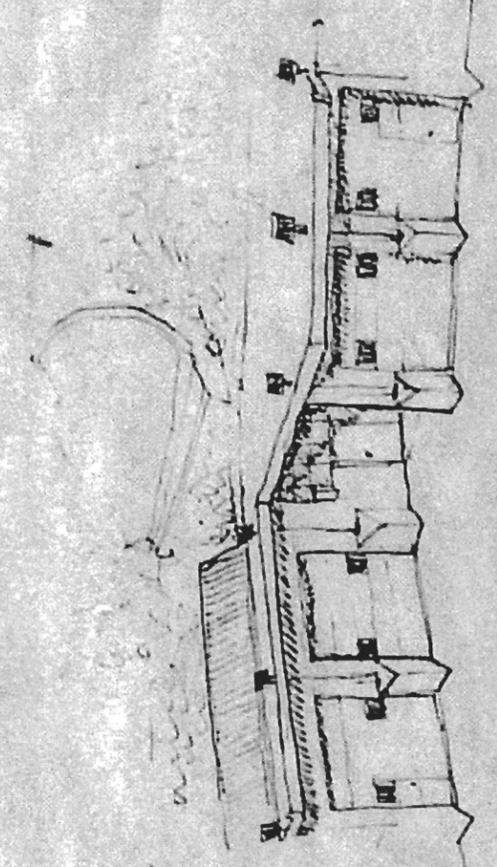
B



PRECAST RET. WALL



WARRREN TOWN GARAGE



WARRREN TOWN GARAGE

WARRREN TOWN GARAGE