



# Owners Project Requirements

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October 17, 2024

## **PRIMARY PROGRAM NEEDS & KEY PROJECT REQUIREMENTS**

The Town of Warren has been looking to build a new Town Garage for some time and has finally landed on a piece of property previously avoided for reasons pertaining to noise and disruption of neighbors, as well as traffic patterns integrating with route 100 and adjoining roads. After an extensive search this location on Vaughn Brown Road has been determined to be the best fit for our purposes. We are considering a building approximately 12,000 square feet in size with the ability to accommodate the necessities of our town's highway department

**Our primary design considerations are as follows.**

1. Noise Control for surrounding neighbors
2. Sustainable Design and Construction practices
  - i. A simple, utilitarian design and economical construction.
  - ii. A highly efficient building enclosure and mechanical systems.
  - iii. Use of electric source for heating and hot water to the extent possible given high periodic heating loads when cold, wet trucks are brought into the building in winter. Peak heating loads handled with an appropriate backup.
  - iv. Robust ventilation and building enclosure design to handle very high moisture loads when cold, wet trucks are brought into the building in winter.
  - v. Location and structure for roof mounted solar electric system.
3. Seamlessly integrated with the landscape
4. Meet C.B.E.S. code requirements

## **SITE IMPROVEMENTS**

- Orient building to capture Solar from South and Direct Noise to the North



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- Road design consideration to address traffic safety concerns around rt 100 north intersection and Vaughn Brown Rd for all users, residents and town personnel. Also accommodations for tractor trailers even in winter> reroute off 100 with a gradual corner and possibly a more southern entrance to the pit site (Include VTrans) // maybe a roundabout?
- Septic (on site septic. Floor drains will be collected in holding tank, size TBD)
- Water (drilled well)
- Material storage requirements:
  - Sand Pile 5500 yards of Sand> not required to be covered. Could be considered further
  - Salt Shed >state parameters must be followed> 300-400 yards of salt (grant)
  - Gravel Pile> 3000-6000 yards
  - Stone 1.5" > 2500 yards
  - 8" minus > 1500 yards
  - Culvert Storage (can be based on existing quantity at the site)
  - Concrete Blocks for Culvert Headers
  - 1,500-2,000-gallon tank for diesel fuel (above ground tank with spill containment)
  - Ground asphalt pile
  - (2) 2,500 gallon Magnesium Chloride tanks
- Design to mitigate dust
- Concrete apron at overhead doors large enough to hold vehicles (40'-50')
- Use shrubs or trees to mitigate sound (earth berms may be more effective)
- Stormwater mitigation

## **PARKING NEEDS:**

### **COLD STORAGE: (ideally covered storage with a simple roof form)**

- York rake
- Tractor
- Roadside Mower
- Excavator



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- Grader x2
- Backhoe
- Roller
- 6 personal vehicles (not as important to be covered)

## Heated Storage:

- Loader
- Bobcat
- 5 Tandem Dump trucks
- Regular ¾ ton pickup truck
- 5500 Dump Truck

## BUILDING DESIGN REQUIREMENTS

- 5, 24' wide bay garage, total building size approximately, 80' deep x 150' wide
- 20' tall inside ceiling over the machine bays (trucks are 20' tall with dump body up)
- 1 small garage door bay to access storage of equipment, tires, signs etc... runs the depth of the building.
- Doors are 16' wide x 16' tall accessing 24' wide bays (bay width to be reviewed)
- Drainage in slab to holding tank
- Sign storage
- Breakroom (refrigerator & microwave required. Maybe a cooktop/oven. No dishwasher required)
- Lockers/Personal effects storage (room for 8-10 lockers. Could be coat hooks)
- Tire Storage (50 dump truck tires> summers and winters)
- Hydro Seeders> 1
- Compactors> 3
- Bathroom w/ shower plus second bathroom (both gender neutral)
- "office" area with desk and room for some file drawers
- Eye wash station
- Storage over the small bay (mezzanine where practical)
- Oil Drums> 1-2 for waste oil
- Dump Truck Lift > would be nice but not required or likely due to cost.
- Radiant in floor> air to water if possible
- Wash Bay>enclosed for interior washing in winter (hard wall vs curtain)

## ELECTRICAL SYSTEMS

Infrastructure to be sized to accommodate roof mounted PV systems. All lighting fixtures shall be LED. Special requirements of the highway garage include:

- Welding / plasma cutting equipment
- Backup Generator (consideration for battery system?)

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- EV charging stations (per code)

## PLUMBING, WATER & WASTEWATER EFFICIENCY GOALS

Plumbing fixtures shall be selected for water efficiency. Break Room shall include:

- Sink
- Waterline to refrigerator

Additional plumbing requirements for the project:

- Eye wash station required
- Slab drainage with catch basin design
- pressure washer setups in wash bay to be reviewed based on design (hot water)
- Hose bibb locations to be reviewed as design progresses
- Compressed air

## HVAC SYSTEMS

The desired outcome of all HVAC systems is efficiency and effectiveness. The desire is for the staff of the Town Highway Department to be able to control and operate the systems without intervention.

- Temperature zones that can be locally controlled by staff.
- Fossil fuels are to be avoided where possible
- All-electric heating and cooling systems are preferred (geothermal or air source heat pumps are both considerations)
- On-demand hot water systems shall be considered by the design team