

Building Number: 37

Original Name: Auto Maintenance Shop

Est. Year of Construction: 1951

General Data

- Square Footage: 2,200
- # of Floors: 1
- # of Rooms: 5
- # of Bedrooms: 0
- # of Bathrooms: 1
- # of Kitchens: 0
- # of Laundry Rooms: 0
- # of Shower Rooms: 0
- Basement or Crawl Space? Slab-on-grade
- Ceiling Heights: 14'-0" in garage
7'-0" to acoustic tile (ACT) in office
9'-0" finished ceiling above ACT

History and Future Plans

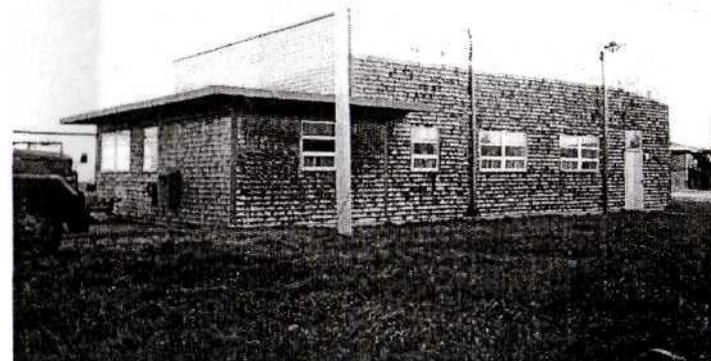
Building #37 was originally used as an automobile maintenance shop. NPS currently houses equipment in this space, but anticipates Highlands Center use as shop or studio space. High ceilings and four large garage doors make reuse options quite flexible.



Interior of garage.



View from east.



View from northwest.

Exterior Conditions

- *Roofs*

Flat roof. Deep overhangs at flat-roofed, one story ell in **fair / good condition**. Leaks in garage near west wall and in north office space. Recommend repair.

- *Wall*

Exterior sheathed in white cedar shingles is in **fair/ good condition**. Rotted areas at ground. Recommend replacement of 175 SF.

- *Trim*

Metal fascia and soffit in **fair condition**. Soffit sagging. Recommend repair and replacement of 100 SF. Galvanized and painted rain leaders / scuppers are in **fair condition**.

- *Foundation*

Poured concrete slab-on-grade with conc. apron at doors. **Fair condition**.

Framing

Roof: 2 x 6 wood trusses @ 24" O.C. lag-bolted with plywood sheathing. **Fair condition**. Insulation above ACT.

Wall: Wood 2 x 4 with diagonal wood plank sheathing to exterior in **fair/ good condition**.

Floor: Concrete slab in **fair condition**.

Life Safety

The two means of egress from Building #37 are in **fair/poor condition**. Advise that all doors be replaced. One step up to main entrance - not handicap accessible. Asbestos noted at pipes; refer to environmental section.

Interior Conditions

- *Ceiling*

Acoustic ceiling tile (ACT) in **fair condition**. Some tiles are missing / damaged from roof leaks. Advise replacement / repair.

- *Wall*

Exposed and painted 5" horizontal wood sheathing in garage in **fair condition**. Some paint is peeling. Water damage to west wall. Wallpaper and paneling in office in **fair condition**. Water damage in north office. Repair and refinishing recommended throughout.

- *Trim*

Painted wood door and window trim is in **fair condition**. Paint is peeling and cracking. Refinishing is recommended. No baseboard exists.

- *Floor*

Four 12' bays. Concrete slab in garage and carpet in offices in **fair condition**. Advise replacement of carpet and refinishing of concrete.

Windows

Building #37 has 7 awning windows with the bottom panel operable in **fair/poor condition**. Aluminum is in fair condition; glazing is in poor condition. Replacement of all recommended.

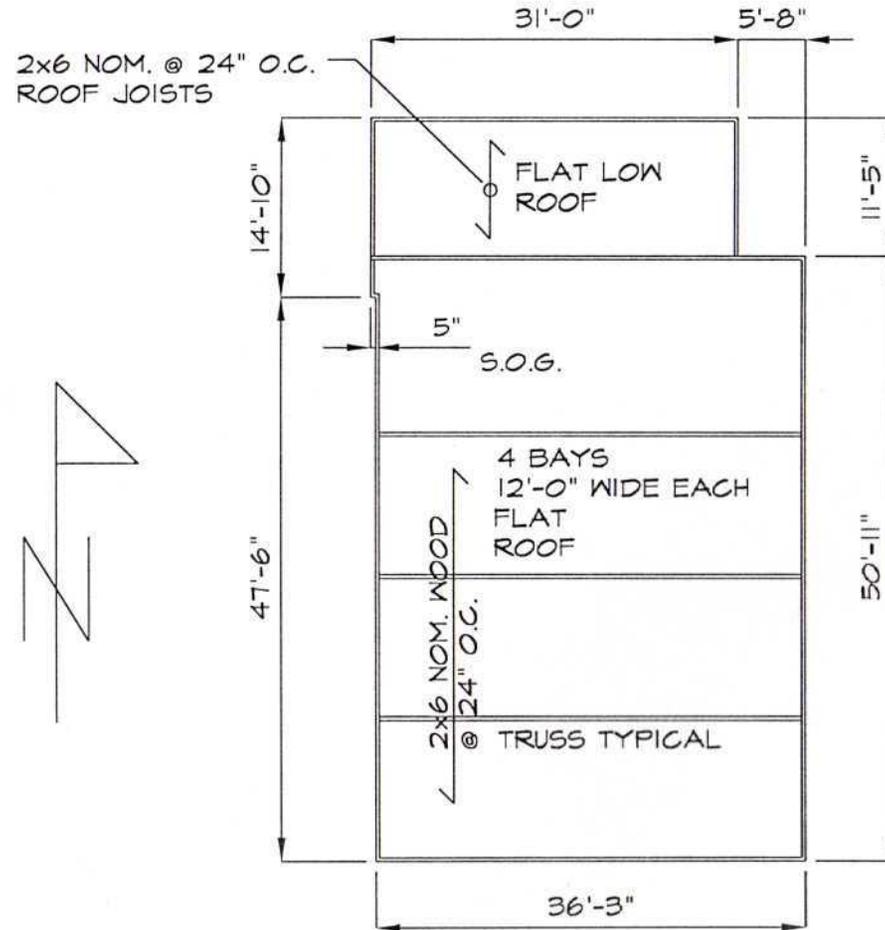
Doors

Interior doors include a wood panel and a hollow core wood with metal veneer in **fair/poor condition**; all need to be refinished and are missing hardware. Two steel doors -- door with one light is in **fair condition**; other is in **poor condition** (and boarded up). Four 12'-0" wide 6-panel garage doors are in **fair condition**. Replacement of all doors recommended.

Reusable Fixtures

None. Refer to Mechanical/Electrical/Plumbing section.

Building Number: 37



Building 37**A. Building Classification**

Existing Auto Maintenance Shop is assumed to be S-1 moderate-hazard storage use, a category including motor vehicle repair garages. Proposed conversion to B use anticipates a studio or vocational training shop, as defined by 305.2.

B. Occupancy and Fire Separations

Per 302.1.1, boiler and furnace rooms require 1-hour separation or an automatic fire suppression system. In occupancies other than F, paint shops employing hazardous materials (in quantities less than those which cause H use group classification) require 2-hour separation, or 1-hour with automatic fire suppression system.

C. Type of Construction

Type 5B, unprotected. Per Table 602, fire resistance rating not required for roof construction.

D. Floor Area

2,200 sf < 7,200 sf max. allowed for 5B construction, per Table 503.

E. Height and Number of Stories

1 story; conforms to 2-story/30' max. for proposed B use (Table 503).

F. Occupancy

Proposed conversion to B use results in no change in Hazard Index; Chapter 34 provisions are applicable.

100 gsf per occupant in 2,200 sf = 22 max. occupants.

G. Exiting Requirements

Existing one-story building has two single-leaf exits (plus four overhead garage doors). Per Table 1009.2, for B uses, egress width of doors, ramps

and corridors per occupant is .2" without sprinkler system, .15" with sprinkler system. Existing egress widths are adequate for 22 occupants.

H. Loading Requirements

Slab-on-grade floor. Refer to plan diagrams for structural information.

I. Accessibility

Main entrance is one step up; must be refurbished or adapted for universal accessibility. New accessible toilets, water fountain, etc. required.

BUILDING #37: REQUIRED ARCHITECTURAL AND STRUCTURAL REPAIRS

1. Repair/replace framing and sheathing	175	sf
2. Remove and replace rotted trim	10	lf
3. Remove and replace cedar shingles	175	sf
4. Prepare and paint wood trim	1	job
5. Remove and replace damaged soffits	100	sf
6. Remove and replace exterior doors, hardware	2	ea
7. Remove and replace garage doors	4	ea
8. Remove windows and replace with metal-clad wood windows	7	ea
9. Repair and recondition window sills; paint	7	ea
10. Install new single-ply membrane roof with 1-1/2" polyisocyanurate insulation ✓	2,200	sf
11. Roof drainage system repair/replacement	1	job
12. Install batt insulation at walls	1	job
13. General interior cleanout, mildew treatment	2,200	sf
14. Patching and floor, wall and ceiling finishes (gfa)	2,200	sf
15. Repair/replace/paint interior doors & trim	1	job
16. New toilet and mechanical room enclosures, toilet accessories	1	job
17. Refurbish main entrance for universal accessibility (path, ramp)	1	job

IV MECHANICAL, ELECTRICAL, FIRE PROTECTION AND PLUMBING REPORTS – BUILDING NUMBER 37

A. HEATING, VENTILATING AND AIR CONDITIONING

1. Existing Conditions

- a. Heating Media
 - 1) Heating systems media is provided from above-ground, low pressure steam distribution systems that has been disconnected from inactive boiler plant.
- b. Heating Distribution
 - 1) Space has been provided with (3) electric “Dayton” propeller unit heaters and (2) “Modine” steam propeller heaters.
- c. Ventilation
 - 1) No central ventilation has been provided for building. Vents within overhead doors have blocked up.
- d. Controls
 - 1) Honeywell controls and Dayton electric controls provided for propeller unit heaters.
- e. Toilet Exhaust
 - 1) Toilet provided with exhaust fan.

2. Recommendations

- a. Heating Media
 - 1) Hot water heating provided by propane gas-fired boiler with propane tank located outside. Space within building must be provided for heating plant for boiler, pump, et cetera
- b. Heating Distribution
 - 1) Separate heating and ventilating unit and exterior wall hot water fin-tube radiation provided for office areas and studio space.
- c. Alternate Heating
 - 1) If space is used for garage, we recommend gas-fired unit heater.
- d. Toilet Exhaust
 - 1) New toilet exhaust fan and ductwork

- e. Miscellaneous Heating
 - 1) Heating of Vestibule and exits provided with cabinet unit heaters.
- f. Domestic Hot Water
 - 1) Refer to Plumbing for domestic hot water requirements.
- g. Automatic Temperature Control
 - 1) Space Automatic temperature control shall be electric/direct digital
- h. Special Exhaust Requirements
 - 1) Any special garage exhaust requirements shall be provided by the tenant as a package system.

3. Miscellaneous

- a. No central air conditioning is scheduled for this building.
- b. Estimated building heating requirement with ventilation is 250 MBH.
- c. Refer to supplement section: Sustainable Passive Solar and Wind Energy Technologies

B. PLUMBING

1. Existing Conditions

- a. Plumbing Fixtures
 - 1) (1) Janitor’s Sink
 - 2) (1) Electric Water Cooler
- b. Water Service
 - 1) None found
- c. Water Heating
 - 1) None
- d. Domestic Water Distribution
 - 1) None found.
- e. Sanitary Distribution
 - 1) The building is slab on grade. No sanitary piping could be verified. No floor drains were found. The system below grade is assumed in poor to failed condition due to age and previous waste. It is unknown if any buried exterior interceptors of any kind are located outside this building.
- f. Miscellaneous
 - 1) A storm system was not found for the flat roof.

- 2) Exterior wall hydrants were not present on this building.

2. Recommendations (Shop/Studio Space)

a. Plumbing Fixtures

- 1) 11 Men (Shop/Studio)
 - a) (1) water closet
 - b) (1) lavatory
 - c) (1) shower (optional per tenant)
- 2) 11 Women (Shop/Studio)
 - a) (1) water closet
 - b) (1) lavatory
 - c) (1) shower (optional per tenant)
- 3) General Building
 - a) (1) drinking fountain
 - b) (1) janitor's sink
 - c) (2) exterior wall hydrants
 - d) (1) Mechanical room floor drain
 - e) (1) Mechanical room hose bibb

b. Water Service

- 1) A new 1½-inch service would be required to accommodate the proposed fixtures. The new service would run below slab and rise up within the janitor's closet.

c. Water Heating

- 1) If we assume that the optional showers would be installed as a tenant fit-up, the recommended base building water heater would be a small 10-gallon electric storage heater with a low recovery electric input. The heater would be located on a shelf within the janitor's closet (assume close to the toilet rooms). The showers along with a gas fired storage water heater would all be provided by the tenant.

d. Domestic Water Distribution

- 1) New hot and cold water piping would run primarily within partitions between the janitor's closet and the toilet room wet walls. Branch cold water would run above the ceiling and drop in exterior partitions to exterior wall hydrants.

e. Sanitary Distribution

- 1) A new 4-inch sanitary service would be required to accommodate the proposed fixtures. The piping would run buried below the slab and within the partitions. A new 4-inch vent would collect the vents within the partitions and extend through the roof above the toilet areas. A 4-inch sanitary grid for shop/studio tenant drains and fixtures would be done by the tenant during fit-up.

f. Propane System

- 1) A single bottle point-of-use system would be installed by a supplier to accommodate the building heating system and if provided by the tenant, a storage type water heater.
- 2) A new gas main will run from the tank to the mechanical room.

g. Miscellaneous

- 1) The plumbing costs will include cutting and patching the slab to remove the existing sanitary piping and accommodate the new proposed fixtures. The cost for tenant fit-up system would be by the tenant.
- 2) The plumbing costs will include a new storm water system for this building. The system would consist of a several new roof drains (varies with roof pitch), several new roof leaders and a new 5-inch storm exit main to the site system.
- 3) Other than typical notes on water conservation, additional sustainability options are not available.

C. FIRE PROTECTION

1. Recommendations

a. Shop/Studio

- 1) None required by code. However, pending the tenant or the building occupancy, an automatic sprinkler system could be installed by the tenant during fit-up. An automatic sprinkler system installation would also help to reduce code requirements such as fire separations, exiting, et cetera

D. ELECTRICAL**1. Existing Conditions:**

- a. Building Electric Service:
 - 1) 200A ampere, 120/208 volts, three phase, 4-wire, overhead service drop from pole number 7 to a 200 ampere Square D, panel with a 200-ampere main circuit breaker and branch circuit breakers. The panel is in poor condition. Service has been disconnected.
 - 2) There is an additional Kinney panel rated at 49 amperes, 120/208 volts, three phase, 4-wire, and 10 poles with branch circuit breakers. The panel is in poor condition.
- b. Fire Alarm System:
 - 1) None.
- c. Lighting (including Emergency):
 - 1) Fluorescent, 2 lamp, industrial type. Fixtures are in poor condition.
- d. Exterior Lighting:
 - 1) Incandescent, jelly jar type, 120 volt, switch controlled. Fixtures are in poor condition and damaged.
- e. Wiring Devices:
 - 1) Grounding type receptacles, color: brown. Devices and coverplates are in fair to poor condition.
- f. Telephone System:
 - 1) System enters the building underground. System has been disconnected. Interior wiring is in poor condition.

2. Recommendations:

- a. All systems are in fair to poor condition and must be replaced for the building to be habitable for any use. See Part III Typical Mechanical, Electrical, Fire Protection and Plumbing Items.
- b. Refer to "Sustainability Supplement" section.

We have listed in Table 1 the location and estimated quantity, by square foot (sf), linear foot (lf), or other appropriate unit, of each type of ACBM identified at the site. We have also provided asbestos location drawings in Appendix B.

TABLE 1. • List Of Materials Testing Positive For Asbestos

Building 37, Truro Air Base, North Truro, Massachusetts

Type of Material	Location	Quantity
Green 9"x 9" floor tile and associated mastic adhesive (top layer), brown floor tile (middle layer) dark brown floor tile and associated mastic adhesive (bottom layer)	Front office	110 sf
White pipe insulation	Garage and VM office	2 lf

In Table 2, all materials that tested negative for asbestos are listed, including the locations where these materials were observed and the corresponding bulk sample reference number(s).

TABLE 2. • List Of Materials Testing Negative For Asbestos		
Building 37, Truro Air Base, North Truro, Massachusetts		
Type of material	Location(s) observed	Sample number(s)
Black mastic adhesive underlying brown 9"x 9" floor tile (middle layer)	Front office	37-05A
Gray 2'x2' ceiling tile	Front office area	37-08A
White gypsum wallboard	Office area	37-09A, 37-09B, 37-09C
White joint compound associated with gypsum wallboard	Office area	37-10A, 37-10B, 37-10C
Black tar paper	Underlying exterior wood siding shingled	37-11A
Gray window caulking	Between window and wood frame opening	37-12A
Black roofing material	Main roof	37-13A, 37-13B

2.0 Conclusions and Recommendations

On the basis of our findings, we offer the following conclusions and recommendations:

1. Both friable and nonfriable ACBM were identified at the site. Should the building be renovated or demolished, removal of the ACBM will be necessary. Abatement of all friable as well as nonfriable ACBM that will be made friable by demolition activities must be performed before building demolition. This work should be conducted by a licensed Asbestos Abatement Contractor in accordance with a project design prepared by a certified Abatement Project Designer.
2. If any suspect ACBM are identified at a later date that are not addressed in this inspection report, they should be assumed to be ACBM unless appropriate sampling and analysis demonstrates otherwise.
3. Develop a site-specific operations and maintenance (O&M) program for properly maintaining ACBM that will remain in place. Such a program would include a site-specific O&M plan, training of workers who may impact ACBM, periodic inspection of locations where ACM is present, and other applicable guidelines and procedures.

VHB**XRF Field Testing Results**

Site Access: Yes
 Demo Permitted?: Yes
 Project# 06780
 Location: Building #37

Date 11/3/99
 Page 1 of 1
 Project Name: N. Truro AFS
 Inspector: TMD

Location	Surface Tested	Substrate	Concentration (mg/cm ²)	Estimated Quantity*
Front Office	Brown window casing	Wood	< 0.1	
	Brown door to exterior	Wood	< 0.1	
Bathroom	Brown door casing	Wood	< 0.1	
	Brown door	Wood	1.0	
Vehicle Maintenance Office	Brown window casing	Wood	< 0.1	
	Brown door	wood	< 0.1	
Parts Room	Blue wall	SR	< 0.1	
Garage Area	White lower wall	Wood	0.4	
	Green upper wall	Wood	0.3	
	Yellow floor stripe	Concrete	0.3	
	Brown overhead door	Wood	< 0.1	
	Black floor	Concrete	0.9	
	Red floor	Concrete	0.1	
	Gray rear door to exterior	Metal	< 0.1	
Exterior	Gray floor	Concrete	0.2	
	Brown trim	Wood	< 0.1	
	Brown overhead door casing	Wood	< 0.1	
	Brown overhead door	Wood	0.3	
	Brown eave	Wood	3.6	500 SF

*LBP components only. Limit of detection of NITON XRF is < 0.1 mg/cm² SR=Sheet Rock Block=Cinder Block SF=Square Feet



Oil and Hazardous Materials (OHM) Inventory

Project: Former Air force Station
Location: North Truro, MA

Project # 06780

Location	Waste Type	Container Type	Volume of Contents	Quantity	Comments
Building #37					
	PCBs	Light ballast		20	
	Mercury	Fluorescent bulb		40	4 foot
	CO2/Compressed Gas	Fire Extinguisher		7	
	Anti-freeze lube	plastic	15 oz.	1	
	Motor oil	plastic	32 oz.	1	
	Hydraulic fluid	plastic	16 oz.	1	
	Mercury	glass		1	thermostat
	Auto battery	plastic		1	
	Unlabeled	metal	32 oz.	1	
	Used motor oil	metal	2 lbs. 4 oz.	1	in coffee can
	Gasoline	metal	1 gallon	1	residual
	Acrylic caulking	paper tubes	16 oz.	2	
	Sodium	light tubes		7	2 foot
	Elmer's glue	plastic	32 oz.	1	half full
	Polishing compound	metal	12 oz.	1	residual paste
	Polishing product	metal	16 oz.	1	residual liquid
	Bleche-White Tire Cleaner	plastic	20 oz.	1	half full
	Rug/Upholstery Cleaner	aerosol	22 oz.	1	hydrocarbon propellant
	Air compressor	metal		1	residual fluids
	"Clean burn" waste oil AST	metal	250-gallon	1	reads empty/may contain residual waste oil