Building Number: 14

Original Name: **Library**

Est. Year of Construction: **1950**

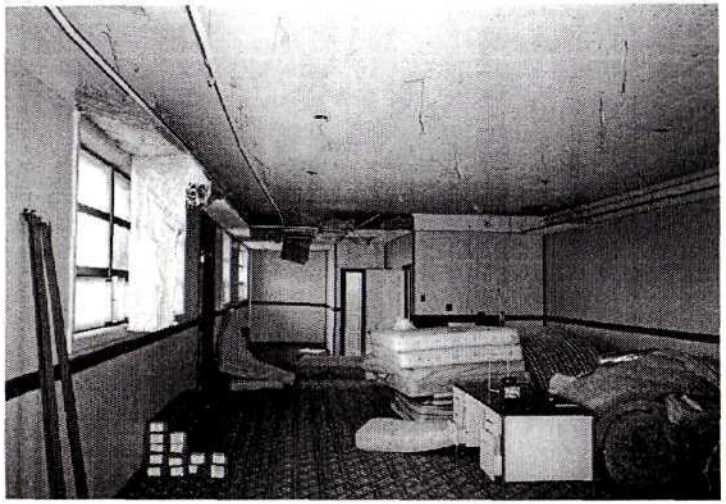
General Data

• Square Footage:	1,742
• # 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?	Crawl space
• Ceiling Heights:	9'-8"

View from the southwest.

History and Future Plans

Building #14 was originally used as a library. Centrally located on the site, NPS anticipates use of this small open plan structure for classroom/meeting and office spaces, possibly in conjunction with the NPS Atlantic Learning Center.



Interior.

Deteriorated soffit.

Exterior Conditions

- *Roof*

  Asphalt shingle roof is in **fair condition**. Leak in south corner. Repair required.

- *Wall*

  Exterior is sheathed in white cedar shingles. **Condition is fair**. Recommend replacement of +/- 1,200 SF.

- *Trim*

  Existing wood trim is in **poor condition**. Advise replacement of +/- 80 LF. Pronounced overhangs and soffits in **fair condition**.

- *Foundation*

  The foundation is concrete masonry unit (CMU) with poured concrete steps. Crawl space is ventilated and in **good condition**.

Framing

Hip Roof: 15-degree slope; wood 2 x 6 rafters and 2 x 4 C.J. 3½" x 7¼" hips. Vert. 2 x 4 to center of C.J. bolted to rafters. Insulation. **Good condition**.

Wall: Wood 2 x 4 @ 16" O.C. Insulation. **Good condition**.

Floor: Wood 2 x 10 @ 24" O.C. and 5½" x 11¼" center beam spanning 9'-4" between 16" x 16" CMU piers. Insulation. **Good condition**.

Life Safety

The three means of egress from Building #14 are in **fair condition**. Advise that all doors be refinished/ replaced. Two and three steps up to entrances - not handicap accessible.

Interior Conditions

- *Ceiling*

  Interior ceiling is in **fair condition**. Leak in roof above entry created water damage to drywall. Dropped ceiling framework exists with tiles and insulation missing. Holes exist where light fixtures have been removed.

- *Wall*

  Painted interior finish is in **fair/poor condition**. Holes where electrical outlets have been removed need to be finished. Seams and screws are visible and paint is peeling and cracking. Advise refinishing of all surfaces. Wood planking in good condition.

- *Trim*

  All baseboard, door, and window trim is in **fair/good condition.** Advise that all pieces be refinished and replace cracked door trim in bathroom.

- *Floor*

  Floor covering includes vinyl-asbestos tile (VAT) in the three ancillary spaces and carpet over a plywood subfloor in the two main spaces. Both are in **fair condition**, but replacement is recommended.

Windows

Building #14 has 9 windows, all awnings with the bottom panel operable, in **fair/ poor condition**. Aluminum is covered in mildew and glazing is in poor condition. Replacement is recommended.

Doors

Interior doors are solid wood panel in **fair condition**. New hardware and refinishing advised. Two metal doors need new hardware, weather stripping, and threshold. Refinishing also recommended. Wood flush door in **poor condition**; replacement advised.

Reusable Fixtures

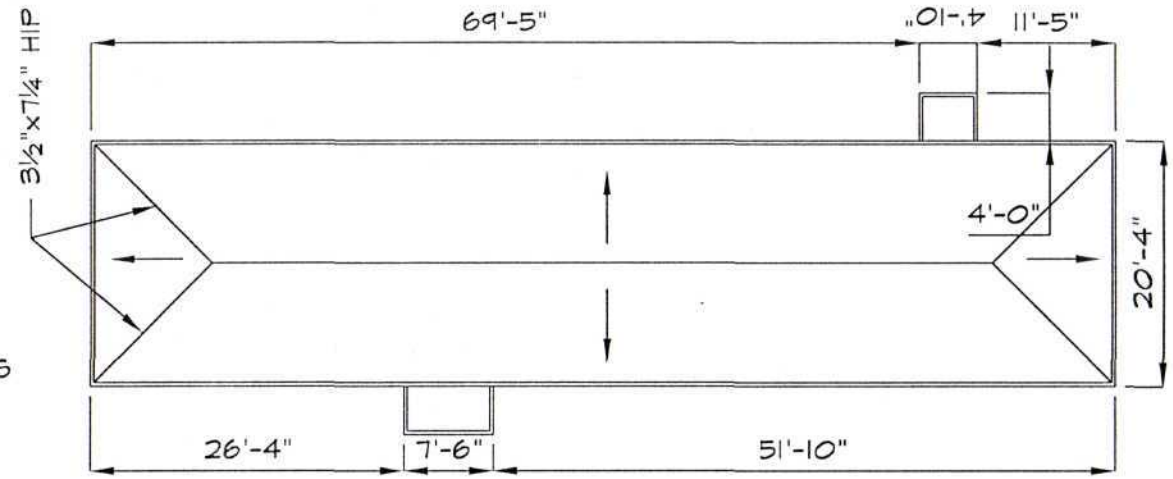
Bathroom fixtures are in poor condition. Code requirements dictate replacement; refer to Mechanical/Electrical/Plumbing section.

Building Number: 14

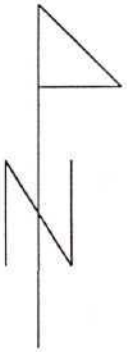
ROOF

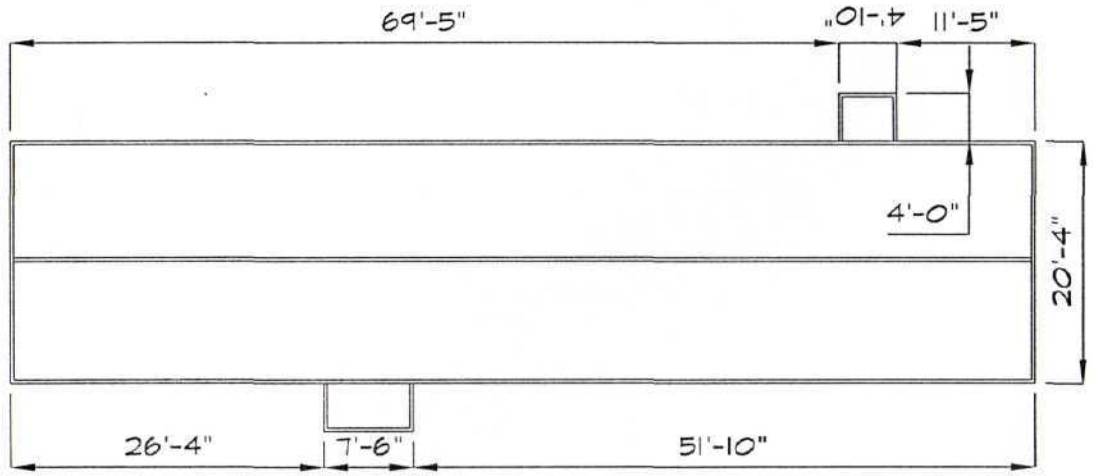
15° ROOF SLOPE

2x6 NOM.
RAFTERS
2x4 NOM. C.J.
VERTICAL 2x4 NOM.
TO CENTER OF C.J.
BOLTED TO RAFTERS



14 ROOF





14 FIRST FLOOR

FLOOR

2x10 NOM. @ 24" O.C.
FLOOR JOISTS

5½"x11¼" BEAM
SPANNING 9'-4" BETWEEN
16"x16" CMU PIERS

Building 14

A. Building Classification
Existing Library is assumed to be A-3 assembly use, a category including galleries, museums, lecture halls without fixed seats, libraries and recreation centers. Proposed A-3 meeting use anticipates "unconcentrated" assembly with chairs and tables. Proposed alternative uses are for office or studio space.

B. Occupancy and Fire Separations
Per 302.1.1, boiler and furnace rooms require 1-hour separation or an automatic fire suppression system. For A and B use groups, storage rooms > 50 sf and < 100 sf in area require 1-hour separation or automatic fire suppression system with smoke partitions; storage rooms > 100 sf require automatic fire suppression system with smoke partitions.

C. Type of Construction
Type 5B, wood-framed building without fire resistant wall construction (i.e., not "protected construction" per 702.1).

D. Floor Area
1,742 sf < 4,200 sf max. allowed for 5B construction, per Table 503.

E. Height and Number of Stories
1story; conforms to 1 story/20' max. for A-3 use (Table 503).

F. Occupancy
Proposed continuation of A-3 assembly use, or conversion to B office use results in change in Hazard Index of +1 or –1, respectively. Chapter 34 provisions are applicable for business use but limited for assembly use; any alteration or change in occupancy within an assembly use group shall comply with the requirements of the State Code for new construction.

Maximum floor area allowance for "unconcentrated" assembly is 15 nsf per occupant; 100 gsf per occupant for business areas: 116 max. occupants for meeting space; 18 for shop or office space.

G. Exiting Requirements
Existing one-story building has three single-leaf exits. Per Table 1009.2, for A & 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 18-116 occupants.

H. Loading Requirements
Refer to plan diagrams for structural information.

I. Accessibility
Main entrance is two steps up; must be refurbished or adapted for universal accessibility. New accessible toilets, water fountain, etc. required.

BUILDING #14: REQUIRED ARCHITECTURAL AND STRUCTURAL REPAIRS

1. Repair/replace framing and sheathing	150	sf
2. Remove and replace rotted trim	80	lf
3. Remove and replace cedar shingles	1,200	sf
4. Prepare and paint wood trim, soffits	1	job
5. Remove and replace exterior doors, hardware	3	ea
6. Remove windows and replace with metal-clad wood windows	9	ea
7. Repair and recondition window sills; paint	9	ea
8. Remove and replace asphalt shingle roof	1	sq
9. Install blown-in cellulose insulation at attic, R22	1,742	sf
10. Install blown-in cellulose insulation at walls, cut & patch	1,795	sf
11. General interior cleanout, mildew treatment	1,742	sf
12. Patching and floor, wall and ceiling finishes (gfa)	1,742	sf
13. Repair/replace/paint interior doors & trim	1	job
14. New toilet and mechanical room enclosures, toilet accessories	1	job
15. Refurbish main entrance for universal accessibility (path, ramp)	1	job

IV MECHANICAL, ELECTRICAL, FIRE PROTECTION AND PLUMBING REPORTS – BUILDING NUMBER 14

A. HEATING, VENTILATING AND AIR CONDITIONING

1. Existing Conditions

a. Heating Media
   1) Heating systems provided from aboveground, low-pressure steam distribution systems that have been disconnected from inactive boiler plant.

b. Heating Distribution
   1) Fin-tube radiation elements (steel 4"x4" fins and 1" steel tube piping) throughout the building.

c. Heating Return
   1) Heating condensate return piping is piped within the building crawlspace and piped to condensate pump.

d. Ventilation
   1) No central ventilation provided, open windows used for ventilation.

e. Toilet Exhaust
   1) Toilet, no exhaust fan (window).

2. Recommendations

a. Heating Media
   1) Hot water heating plant, provided by propane gas-fired boiler with propane tanks located outside of building. Additional space within building will be required for boiler, pumps, controls, et cetera Heating and Ventilation unit and ventilation air ductwork within attic to ceiling diffusers.

b. Heating Distribution
   1) Forced hot water heating with distribution piping systems provided with fin-tube radiation with individual space controls.

c. Toilet Exhaust
   1) New toilet exhaust systems.

d. Miscellaneous Heating
   1) Heating or vestibule and exits provided with wall mounted cabinet unit heaters.

e. Domestic Hot Water
   1) Refer to plumbing for domestic hot water services.

f. Ventilation
   1) Estimated 2,000 cubic feet per minute heating and ventilation unit required for ventilation.

3. Miscellaneous

a. No central air conditioning is scheduled for this building. However, window (electric) type units may be considered.

b. Estimated building heating requirements with ventilation is 262 MBH.

c. Refer to supplemental section Sustainable Passive Solar and Wind Energy Technologies.

4. Existing Conditions

a. Plumbing Fixtures
   1) One single toilet room in poor/failed condition
      a) (1) Water closet, floor mounted, flush valve
      b) (1) Lavatory, wall mounted
      c) (1) Exterior wall hydrant

b. Water Service
   1) A 1½-inch water service with hose bibb rises from the crawlspace below the floor.

c. Water Heating
   1) Jetglass – Model 66JR2, 66-gallon electric (3,375 W, 1 Phase, 208 V) storage water heater. (1974)

d. Domestic Water Distribution
   1) Service runs in crawlspace. Distribution of hot and cold water is exposed in water heater room and runs within the toilet room wet wall.

e. Sanitary Distribution
   1) Not found. Assume the piping runs below floor within the crawlspace. Vent piping runs in attic space.

f. Miscellaneous (beyond assumptions)
   1) All plumbing fixtures, water heaters and remaining piping are in poor to failed condition. The plumbing systems have all exceeded their intended service life.
   2) No floor drains were found in this building.
   3) The single exterior wall hydrant was not freezeproof, and was without a proper vacuum breaker.

5. Recommendations (Meeting, Office or Studio Space)

a. Plumbing Fixtures
   1) 58 Men (Assembly)
      a) (1) water closet
      b) (1) lavatory
   2) 58 Women (Assembly)
      a) (2) water closets
      b) (1) lavatory
      c) (1) floor drain
      d) (1) hose bibb
   3) 9 Men (Office)
      a) (1) water closet
      b) (1) lavatory
   4) 9 Women (Office)
      a) (1) water closet
      b) (1) lavatory
   5) 9 Men (Studio)
      a) (1) water closet
      b) (1) lavatory
      c) (1) shower (optional per tenant)
   6) 9 Women (Studio)
      a) (1) water closet
      b) (1) lavatory
      c) (1) shower (optional per tenant)
   7) General Building (for either use)
      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 for meeting/office space. Only a 1¼-inch service would be required if this space were used as a studio. A 1 ½-inch will be carried in the cost. The oversized main for the studio would allow the tenant to connect wet equipment. The service would enter the crawlspace below the first floor in an accessible location.

c. Water Heating
   1) Meeting/Office Space
      a) The hot water load for the lavatories and janitor's sink would be very low. A small 10-gallon electric storage heater with low recovery electric input would be recommended. The heater would be located on a shelf within the janitor's closet (assume close to the toilet rooms).
   2) Shop Space
      a) If we assume that the optional showers would be installed as a tenant fit-up, the base building water heater would be the same as meeting/office space. The showers along with a gas fired storage water heater would all be provided by the tenant.

d. Domestic Water Distribution
   1) New cold water piping would run either below the floor in the crawlspace with freeze protection cable or above the ceiling (below the insulation) in the attic space. Hot water piping would be limited to the toilet room area only and within partitions between the heater and fixtures.

e. Sanitary Distribution
   1) A new 4-inch sanitary service would be required to accommodate the proposed fixtures for either proposed use. Piping would run below the floor within the crawlspace. A new 4-inch vent would extend through the roof above the toilet area.

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 follow the domestic water route to the boiler room.

3) Review Building 9 Propane section for possible gas source via a bulk tank.

g. Miscellaneous
   1) Other than typical notes on water conservation or combining gas storage, additional sustainability options are not available.

B. FIRE PROTECTION

1. Recommendations

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

C. ELECTRICAL

1. Existing Conditions:

a. Building Electric Service:
   1) 100 ampere, 120/240 volts, single phase, 3-wire, overhead service drop to a 100 ampere Federal Pacific fused main disconnect switch which feeds a Square D, 100 ampere load center with 6 branch circuit breakers. Load center is in fair condition. Service has been disconnected.

b. Fire Alarm System:
   1) None.

c. Lighting (including Emergency):
   1) All fixtures have been removed.

d. Exterior Lighting:
   1) Incandescent porcelain sockets located on underside of building overhangs, 120 volt, switch controlled. Fixtures are in poor condition.

e. Wiring Devices:
   1) Grounding type receptacles, color: brown (some painted). 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 14, Truro Air Base, North Truro, Massachusetts

Type of Material	Location	Quantity
Black mastic adhesive and associated gray 12"x12" floor tile and brown floor tile under plywood flooring (2 layers separated by plywood)	Reception area and Dr's office	430 sf
Brown floor tile under green 9"x9" floor tile (2 layers separated by plywood)	Main office area	966 sf
Brown and tan floor tile (2 layers separated by plywood)	Hot water heater room and bathroom	100 sf

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 14, Truro Air Base, North Truro, Massachusetts

Type of material	Location(s) observed	Sample number(s)
Green 9"x9" floor tile and associated brown mastic	Main office area	14-01A, 14-02A
Black tar paper underlying bottom tile layer	Throughout	14-04A, 14-08A
Beige 12"x12" floor tile (must be treated as ACM due to cross-contamination by mastic adhesive)	Reception area	14-05A,
Gray 12"x12" floor tile (must be treated as ACM due to cross-contamination by mastic adhesive)	Dr's Office	14-09A,
White gypsum wallboard	Throughout	14-11A, 14-11B, 14-11C
White joint compound associated with gypsum wallboard	Throughout	14-12A, 14-12B, 14-12C

2.0 Conclusions and Recommendations

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

1. Only nonfriable ACBM were identified at the site. Should the building be renovated or demolished, removal of the ACBM will be necessary. Abatement of all nonfriable ACBM that will be made friable by demolition activities must be performed before building renovation/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. The two layers of ACM floor tile are separated by plywood flooring and will require removal of the plywood to access all layers of flooring.
3. 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.
4. 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 #14

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*
Reception	**Yellow upper wall**	**SR**	**1.3**	**400 SF**
Main Office	Yellow window casing	Wood	< 0.1	
	Yellow wall	**SR**	**1.2**	**1,500 SF**
	Brown baseboard	SR	0.2	
	Brown chair rail	Wood	< 0.1	
	Gray door to exterior	Metal	< 0.1	
Hot Water Heater Room	White wall	Wood	< 0.1	
	White wall	SR	0.9	
Bathroom	Yellow door	Wood	< 0.1	
	Yellow wall	**SR**	**1.2**	**100 SF**
	Yellow chair rail	Wood	< 0.1	
	Yellow window casing	Wood	< 0.1	
	Brown stall divider	Metal	0.1	
Doctor's Office	**Yellow wall**	**SR**	**1.2**	**400 SF**
	Brown window casing	Wood	< 0.1	
	Brown chair rail	Wood	< 0.1	
	Brown door to exterior	Wood	< 0.1	
	Brown door casing	Wood	< 0.1	
Exterior	Brown front door	Wood	< 0.1	
	Brown trim	**Wood**	**5.8**	**75 SF**
	Brown window casing	Wood	< 0.1	
	Brown vent casings	Wood	0.2	
	Brown upper trim	**Wood**	**8.4**	**200 SF**
	Brown eve	**Wood**	**9.8**	**700 SF**

*LBP components only. Limit of detection of NITON XRF is **< 0.1 mg/cm^2**) SR=Sheet Rock Block=Cinder Block SF=Square Feet

VHB

Oil and Hazardous Materials (OHM) Inventory

Project: Former Air force Station **Project # 06780**
Location: North Truro, MA

Location	Waste Type	Container Type	Volume of Content	Quantity	Comments
Building #14					
Reception	Mercury	Fluorescent bulbs		8	4 foot
	PCBs	Light ballasts		4	
Main Office	Mercury	Fluorescent bulbs		4	4 foot
	PCBs	Light ballasts		2	