

State of Nevada
Department of Conservation & Natural Resources
Division of Forestry
Lee Canyon Fire Station No. 2
Facility Condition Analysis

LEE CANYON FIRE STATION NO. 2

State Route 156
Lee Canyon, Nevada

Site Number: 9844
STATE OF NEVADA PUBLIC WORKS BOARD
FACILITY CONDITION ANALYSIS



Report Printed in April 2010

State of Nevada
Department of Conservation & Natural Resources
Division of Forestry
Lee Canyon Fire Station No. 2
Facility Condition Analysis

The Facility Condition Analysis Program was created under the authority found in NRS 341.201. The State Public Works Board develops this report using cost estimates based on contractor pricing which includes materials, labor, location factors and profit and overhead. The costs of project design, management, special testing and inspections, inflation and permitting fees are not included. Cost estimates are derived from the R.S. Means Cost Estimating Guide and from comparable construction costs of projects completed by SPWB project managers.

The deficiencies outlined in this report were noted from a visual survey. This report does not address routine maintenance needs. Recommended projects do not include telecommunications, furniture, window treatments, space change, program issues, or costs that could not be identified or determined from the survey and available building information. If there are buildings without projects listed, this indicates that only routine maintenance needs were found. This report considers probable facility needs for a 10 year planning cycle.

This report is not a guarantee of funding and should not be used for budgeting purposes. This report is a planning level document for agencies and State Public Works Board to assess the needs of the Building and/or Site and to help support future requests for ADA upgrades / renovations, Capital Improvement Projects and maintenance. The final scope and estimate of any budget request should be developed by a qualified individual. Actual project costs will vary from those proposed in this report when the final scope and budget are developed.

Establishing a Facility Condition Needs Index (FCNI) for each building

The FCA reports identify maintenance items and establish construction cost estimates. These costs are summarized at the end of the report and noted as construction costs per square foot. A FCNI is commonly used by facility managers to make a judgment whether to recommend whole replacement of facilities, rather than expending resources on major repairs and improvements. The FCNI is a ratio between the proposed facility upgrade costs and facility replacement costs (FRC). Those buildings with indices greater than .60 or 60% are recommended to be considered for complete replacement.

Class Definitions

PRIORITY CLASS 1 - Currently Critical (Immediate to Two Years)

Projects in this category require immediate action to return a facility to normal operation, stop accelerated deterioration, correct a fire/life safety hazard, or correct an ADA requirement.

PRIORITY CLASS 2 - Necessary - Not Yet Critical (Two to Four Years)

Projects in this category include conditions requiring appropriate attention to preclude predictable deterioration or potential downtime and the associated damage or higher costs if deferred further.

PRIORITY CLASS 3 - (Four to Ten Years)

Projects in this category include items that represent a sensible improvement to existing conditions. These items are not required for the most basic function of a facility; however, Priority 3 projects will either improve overall usability and/or reduce long-term maintenance.

Site number: 9844

Facility Condition Needs Index Report

Index #	Building Name	Sq. Feet	Yr. Built	Survey Date	Cost to Repair: P1	Cost to Repair: P2	Cost to Repair: P3	Total Cost to Repair	Cost to Replace	FCNI
0284	LEE CANYON FIRE STATION No. 2 State Route 156 Lee Canyon	1500	1979	2/25/2010	\$442,100	\$0	\$0	\$442,100	\$375,000	118%
0865	GENERATOR / WELL HOUSE State Route 156 Lee Canyon	400	1981	2/25/2010	\$7,500	\$0	\$0	\$7,500	\$20,000	38%
9844	LEE CANYON FIRE STATION SITE State Route 156 Lee Canyon		1979	2/25/2010	\$109,000	\$0	\$6,750	\$115,750		0%
Report Totals.....:		1,900			\$558,600	\$0	\$6,750	\$565,350	\$395,000	143%

SPWB Facility Condition Analysis

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LEE CANYON FIRE STATION SITE

SPWB Facility Condition Analysis - 9844

Survey Date: 2/25/2010

LEE CANYON FIRE STATION SITE

BUILDING REPORT

The Lee Canyon Fire Station is located in upper Lee Canyon in the Spring Mountains along State Route 156. The land is leased from Clark County and provides seasonal fire fighting and emergency response from an NDF seasonal crew which mans the building. The site has a compacted dirt driveway / access road and virtually no space for parking. The site is served by a well which is not working and during the survey of 2010, NDF staff indicated that they have bypassed the primary well water supply to this building to provide water to the adjacent campground and U. S. Forestry building located in close proximity to the Fire Station. The main water distribution piping for the other non-State facilities on site is located inside of the garage. There is no electrical or phone service and power is provided by an on-site generator. There is also a propane tank along the side of the building. The site is basically lacking all necessary items including ingress and egress, paved parking, ADA accessibility, signage and most of all, reliable utilities to carry out the mission of a fire station or essential facility.

PRIORITY CLASS 1 PROJECTS

Total Construction Cost for Priority 1 Projects: \$109,000

Currently Critical

Immediate to Two Years

ADA PARKING AND PATH OF TRAVEL

Project Index #: 9844ADA1

Construction Cost \$4,000

The Americans with Disabilities Act (ADA) provides for accessibility to sites and services for people with physical limitations. A concrete parking area, passenger loading area, and path of travel to the building are necessary to comply with ADA accessibility requirements. This project would provide for a concrete van accessible ADA parking and loading space, and concrete walkway to the building. This will require placement of P.C. concrete, regrading, signage, striping, and any other necessary upgrades. The 2006 IBC, ICC/ANSI A117.1 - 2003 and the most current version of the Americans With Disabilities Act Accessible Guidelines (ADAAG) were used as a reference for this project. 400 square feet of concrete was used for this estimate. It is recommended that this project coincide with the paving project.

Project Index #: 9844SIT2

Construction Cost \$45,000

ASPHALT PAVING INSTALLATION

The access road and parking area in front of the building are not paved. This project would provide asphalt cement paving for a 20' wide access road and a parking area in front of the building. The estimate includes grading, 6" base, compaction, and installation of 4" thick asphalt cement paving. The final design may require different thicknesses of the base and paving, and impact the construction cost estimate.

Project Index #: 9844ENR1

Construction Cost \$35,000

EXTERIOR SOLAR SITE LIGHTING INSTALLATION

There is no site lighting for the access road and parking area which is a security and safety concern. This project would provide for the installation of 5 solar powered LED exterior light fixtures, 20 foot tall poles, and 30" diameter raised concrete base. This installation will eliminate the need for trenching and electrical connections.

Project Index #: 9844PLM1

Construction Cost \$25,000

WELL REFURBISHMENT

The existing well and possibly the well casing itself is problematic according to staff. The well pump is no longer operational and the water has not been tested recently. This project would provide funding to bring the well back into operation including the following projects. Investigate the well using a camera to inspect the casing and evaluate the well for the total depth and screened interval. Replace the 1- 1/2 hp pump and associated equipment including piping to the building. Test the water to determine drinking quality and whether chemical treatment is necessary. Future projects may be based on the results of the investigation and are not part of this project.

PRIORITY CLASS 3 PROJECTS

Total Construction Cost for Priority 3 Projects: \$6,750

Long-Term Needs

Four to Ten Years

Project Index #: 9844SIT3

CRACK FILL & SLURRY SEAL ASPHALT PAVING

Construction Cost \$6,750

When the "Asphalt Paving Installation" project is complete, it is important to maintain the asphalt. This project would provide for minor crack filling and slurry sealing of the paving site wide including the access road and parking area. Striping is included in this estimate. This project should be scheduled on a 5 year cyclical basis to maintain the integrity of the paving and prevent premature failure. 9,000 square feet of asphalt area was used to generate this estimate.

PROJECT CONSTRUCTION COST TOTALS SUMMARY:

Priority Class 1:	\$109,000
Priority Class 2:	\$0
Priority Class 3:	\$6,750
Grand Total:	\$115,750

GENERATOR / WELL HOUSE

SPWB Facility Condition Analysis - 0865

Survey Date: 2/25/2010

**GENERATOR / WELL HOUSE
BUILDING REPORT**

The Generator / Well House is a wood framed structure with a composition roofing system on a concrete foundation. It is located adjacent to the fire station and contains the generator and well head. The generator is the only source for power to the fire station and is in good operating condition. The well pump is not operating and is in desperate need of replacement for reliable water. The building is in fair shape.

PRIORITY CLASS 1 PROJECTS **Total Construction Cost for Priority 1 Projects: \$7,500**
Currently Critical **Immediate to Two Years**

EXTERIOR FINISHES

**Project Index #: 0865EXT1
Construction Cost \$4,000**

It is important to maintain the finish, weather resistance, and appearance of the building. This project would provide funding to protect the exterior of the building. Included in the cost is sanding, priming and painting, and caulking of the windows, flashing, fixtures, and all other penetrations. It is recommended that the building be painted in the next 1-2 years and that this project be scheduled on a cyclical basis to maintain the integrity of the structure.

HEATER REPLACEMENT

**Project Index #: 0865HVA1
Construction Cost \$1,500**

The building is heated by one wall mounted propane-fired heating unit. It is original to the building and is reaching the end of its useful life. This project provides for disposal of the existing unit and replacement with a new propane-fired unit including connections to utilities.

INTERIOR FINISHES

**Project Index #: 0865INT1
Construction Cost \$2,000**

The interior finishes are in fair condition. It is recommended that the interior walls be painted at least once in the next two to four years. Prior to painting, all surfaces should be repaired and prepped.

BUILDING INFORMATION:

Gross Area (square feet): 400
Year Constructed: 1981
Exterior Finish 1: 100 % Painted Wood Siding
Exterior Finish 2: %
Number of Levels (Floors): 1 **Basement? No**
IBC Occupancy Type 1: 100 % U
IBC Occupancy Type 2: %
Construction Type: Wood Framing
IBC Construction Type: V-B
Percent Fire Supressed: 0 %

PROJECT CONSTRUCTION COST TOTALS SUMMARY:

Priority Class 1:	\$7,500	Project Construction Cost per Square Foot:	\$18.75
Priority Class 2:	\$0	Total Facility Replacement Construction Cost:	\$20,000
Priority Class 3:	\$0	Facility Replacement Cost per Square Foot:	\$50
Grand Total:	\$7,500	FCNI:	38%

LEE CANYON FIRE STATION No. 2

SPWB Facility Condition Analysis - 0284

Survey Date: 2/25/2010

LEE CANYON FIRE STATION No. 2

BUILDING REPORT

The Lee Canyon Fire Station is a two level wood framed structure with a composition roofing system on a concrete foundation. The facility was designed as a volunteer fire station with a garage / apparatus bay below and living space above and is used as a seasonal volunteer fire station. It is located several hundred feet off of the main highway and has a compacted dirt driveway access and no space for parking. The water is supplied by a well which is in poor operational condition. The distribution piping is located inside of the garage and the building has been bypassed to serve only the adjacent campground and the U. S. Forestry building with no water available to the fire station. There is no electrical service, telephone, or any utilities serving this site. Power is provided by a propane fired generator located adjacent to the building. There also is a propane tank located on the north side of the facility. The fire station is manned seasonally and has one bedroom, a small kitchen, bathroom, storage upstairs, and a garage / apparatus bay on the lower level. The building has numerous issues including roof leaks, utilities and does not meet the design or operational requirements for fire stations. The recommended projects contained in this report address the majority of the deficiencies in a project by project format but a complete replacement of this facility is recommended.

PRIORITY CLASS 1 PROJECTS

Total Construction Cost for Priority 1 Projects: \$442,100

Currently Critical

Immediate to Two Years

Project Index #: 0284SFT4

Construction Cost \$1,500

EXIT SIGN AND EGRESS LIGHTING INSTALLATION

The building does not have any emergency lighting or exit signs. This project would provide for the purchase and installation of self-illuminated or LED style exit signs with battery-backed internal systems as well as emergency egress lighting to provide illumination along the egress route. IBC - 2006 Chapter 10 was referenced for this project.

Project Index #: 0284EXT4

Construction Cost \$3,000

EXTERIOR DOOR REPLACEMENT

The existing exterior wood doors appear to be original to the building. They are damaged from age and general wear and tear. This project would provide for the replacement of the wood doors with new metal doors, frames and hardware. Removal and disposal of the existing doors and painting of the new doors is included in this estimate.

Project Index #: 0284EXT2

Construction Cost \$15,000

EXTERIOR FINISHES

It is important to maintain the finish, weather resistance, and appearance of the building. This project would provide funding to protect the exterior of the building. Included in the cost is sanding, priming and painting, and caulking of the windows, flashing, fixtures, and all other penetrations. The paint scheme should match the nearby U.S. Forestry structure. It is recommended that the building be painted in the next year and that this project be scheduled on a cyclical basis to maintain the integrity of the structure.

This project or a portion thereof was previously recommended in the FCA report dated 1/15/2002. It has been amended accordingly to reflect conditions observed during the most recent survey date of 2/25/2010.

Project Index #: 0284SFT2

Construction Cost \$3,750

FIRE ALARM SYSTEM INSTALLATION

This building is lacking a fire detection and alarm system. It is recommended that a fire detection and alarm system be installed. When completed, the new system will provide visual, as well as audible notification, in accordance with ADA requirements located in ICC/ANSI A117.1- 2006 Section 7 and the 2006 International Fire Code.

Project Index #: 0284SFT1
Construction Cost \$145,000

FIRE SUPPRESSION SYSTEM INSTALLATION

The building is a B occupancy per the 2006 IBC. Pursuant to the Nevada State Fire Marshal Regulation, NAC 477.915 (c) states, that every building owned or occupied by the state which is designated as a B occupancy, or has a floor area greater than 12,000 square feet on any floor or 24,000 square feet on all floors or is an R-1 occupancy, must have sprinklers installed when the building is remodeled or an addition is proposed. This building poses unique design parameters because the water supply would need to be provided from the well. This would require a fire pump and a storage tank to support the fire suppression system. This project would provide funding for the installation of a fire sprinkler system, fire pump, storage tank, and backflow prevention in the event the building is remodeled or an addition is undertaken.

Project Index #: 0284HVA2
Construction Cost \$7,500

HVAC EQUIPMENT REPLACEMENT

The HVAC system consists of a propane-fired forced air unit and wood stove on the upper level and a propane-fired wall unit in the garage. They are not energy efficient and have reached the end of their expected and useful life. This project would provide for installation of a new HVAC system and cleaning of the existing duct work and grilles. This project includes removal and disposal of the existing HVAC units and all required connections to utilities.

Project Index #: 0284INT2
Construction Cost \$100,000

INTERIOR REMODEL/ ADDITION

The interior fixtures and finishes are in general disrepair and the building is due for a complete remodel. The fire station is also lacking ADA compliance and segregated living quarters for female firefighters. It is recommended that the interior walls be painted at least once in the next two years. Prior to painting, all surfaces should be repaired and prepped. An epoxy-based paint should be utilized in wet areas for durability. This project would also provide for removal and replacement of the flooring, interior doors and frames, cabinetry, trim, baseboards, kitchen appliances, lighting fixtures, restroom fixtures and any other interior finishes and fixtures in need of replacement at the time. The wall mounted gas lamps are a fire hazard. These should be removed and replaced with T-8 or CFL light fixtures. In order to provide ADA compliance, a new unisex restroom may need to be built in the garage. If there is not enough space for the segregated living quarters, an addition may need to be undertaken to provide this space. This project provides a lump sum construction cost estimate for the items described in this project only.

Project Index #: 0284ELE2
Construction Cost \$65,000

PHOTOVOLTAIC ROOF SYSTEM INSTALLATION

The buildings electricity is solely provided by the propane-fired generator. The generator does not provide enough power to support the essential functions of a fire station. This project provides for purchase and installation of a 7 kW photovoltaic roof mounted system to provide primary power to the building. The generator would then become the back-up system.

Project Index #: 0284PLM2
Construction Cost \$22,500

PLUMBING REPLACEMENT

The plumbing and waste system is older, subject to freezing, and in poor condition. Most of the system appears to be original to the building and should be scheduled for replacement. This project recommends replacing all of the water and sewer lines in the building. This estimate includes removal and disposal of the existing system as required.

Project Index #: 0284EXT1
Construction Cost \$22,500

ROOF REPLACEMENT

The asphalt composition shingle roof on this building was in poor condition at the time of the survey including many active leaks and ice dam problems. It is recommended that this building be re-roofed in the next one to two years with a new 50 year asphalt composition roofing shingle and new underlayments. This estimate includes removal and disposal of the old roofing.

This project or a portion thereof was previously recommended in the FCA report dated 1/15/2002. It has been amended accordingly to reflect conditions observed during the most recent survey date of 2/25/2010.

SMOKE DETECTOR INSTALLATION

**Project Index #: 0284SFT3
Construction Cost \$600**

The 2006 IBC and 2006 IFC, section 907.2.10.1.2 requires smoke detectors in dwelling units be installed in each sleeping room and on the ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms. State Fire Marshal NAC 477.915 (3) requires that smoke detectors be connected to the building wiring with a battery backup. This project would provide funding for the purchase and installation of smoke detectors.

VEHICLE EXHAUST EXTRACTION SYSTEM

**Project Index #: 0284HVA3
Construction Cost \$50,000**

The apparatus garage has no exhaust extraction system to remove toxic exhaust fumes. In enclosed areas where motor vehicles operate, mechanical ventilation shall be provided per the 2006 IBC 406.6.3 and UMC 502.14. The fumes also travel into the office and living quarters because they are directly above the garage. This poses a health and environmental problem for the firefighters. This project would provide for the purchase and installation of a vehicle exhaust extraction system including hoses, automatic shut off, electrical connections, and roof mounted exhaust fans, and equipment as provided by the manufacturer.

WATER HEATER REPLACEMENT

**Project Index #: 0284PLM3
Construction Cost \$1,250**

There is a 30 gallon propane-fired water heater in the fire station. The average life span of a water heater is eight to ten years. With the passage of time and constant use, this unit is showing signs of wear and should be scheduled for replacement in the next 1-2 years. It is recommended that a new propane-fired water heater be installed. Removal and disposal of the existing equipment is included in this estimate.

WINDOW REPLACEMENT

**Project Index #: 0284ENR1
Construction Cost \$4,500**

The windows are original, dual pane construction in a wooden frame. These older windows are drafty, not energy efficient and the wooden frames have deteriorated significantly. This project recommends replacing the windows with dual pane, higher efficiency units. This estimate is for the replacement of 6 units including wooden frames. Removal and disposal of the existing windows is included in this estimate.

BUILDING INFORMATION:

Gross Area (square feet): 1,500
Year Constructed: 1979
Exterior Finish 1: 100 % Painted Wood Siding
Exterior Finish 2: %
Number of Levels (Floors): 2 Basement? No
IBC Occupancy Type 1: 100 % B
IBC Occupancy Type 2: %
Construction Type: Wood Framing
IBC Construction Type: V-B
Percent Fire Supressed: 0 %

PROJECT CONSTRUCTION COST TOTALS SUMMARY:

Priority Class 1:	\$442,100	Project Construction Cost per Square Foot:	\$294.73
Priority Class 2:	\$0	Total Facility Replacement Construction Cost:	\$375,000
Priority Class 3:	\$0	Facility Replacement Cost per Square Foot:	\$250
Grand Total:	\$442,100	FCNI:	118%

NOTES:

The deficiencies outlined in this report were noted from a visual survey. The costs do not represent the cost of a complete facility renovation or maintenance needs. Recommended projects do not include telecommunications, furniture, window treatment, space change, program issues, relocation, swing space, or costs that could not be identified or determined from the survey and available building information.

Individual projects and costs noted herein may be impacted by new construction materials or methods, agency projects, and pending or proposed Capital Improvement Projects (CIP).

This report was created under the authority found in NRS 341.201 by the State Public Works Board and should be utilized as a planning level document.

REPORT DEVELOPMENT:

State Public Works Board
Facilities Condition Analysis

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Lee Canyon Fire Station No. 2 Site - Site #9844
Description: Ingress / egress to fire station.



Lee Canyon Fire Station No. 2 Site - Site #9844
Description: View of the driveway from the garage.



Lee Canyon Fire Station No. 2 - Building #0284
Description: Exterior of the building.



Lee Canyon Fire Station No. 2 - Building #0284
Description: Ice damming on the roof.



Lee Canyon Fire Station No. 2 - Building #0284
Description: Entry stairs, only entrance to facility.



Lee Canyon Fire Station No. 2 - Building #0284
Description: Domestic water distribution piping.



Lee Canyon Fire Station No. 2 - Building #0284
Description: Interior of the restroom.



Lee Canyon Fire Station No. 2 - Building #0284
Description: Interior of the kitchen.