

Orland Fire Station Committee

Final Report to the Town of Orland Selectmen

Date Submitted: May 20, 2021

Members of the Committee

John Barlow, Chair; Bobby Conary, Ed Dailide, John Gray, Cliff Guthrie, Brenda S. Leavitt (ex-officio), Marc Restuccla, Pete Robshaw, Les Stackpole (ex-officio)

Executive Summary

The Ad Hoc Orland Fire Station Committee was created to receive and consider an authorized assessment of our current firehouse and make recommendations to the board of selectmen.

This assessment completed by the James W. Sewall Co. of Old Town (Appendix A) detailed the extensive repairs and upgrades needed for the current firehouse and discussed replacement options, but it did not include many relevant and inevitable costs for this project.

In its consideration of Sewall report, the Committee explored five different options for how the Town of Orland should move forward:

- Do nothing at present
- Eliminate the Orland Fire Department and contract services out with neighboring towns
- Repair and renovate the existing building
- Demolish all or part of the existing building and rebuild in the same location
- Build a new fire station in a new location

The Committee, after careful consideration of all these alternatives, recommends that the Town of Orland build a new fire house at a different location.

Table of Contents

Executive Summary	1
Scope and Work of the Committee	3
Overview of the function of our fire station	3
Overview of the fire station facilities	3
Studied Alternatives and Discussion	4
Alternative 1: Do nothing	5
Alternative 2: Contract with Other Area Fire Departments and Reduce/Eliminate the Orland Fire Department	7
Alternative 3: Repair and renovate the existing fire station and rear addition	8
Alternative 4: Demolish the existing fire station and rear addition and build anew on the existing site	9
Alternative 5: Build a new fire station in a different location	10
Final Committee Recommendation	11
Appendix A: Ten-year Fire Department Call Data	12
Appendix B: Sewall Facility Assessment of Orland Fire Station	13
Appendix C: Committee Review of the Sewall Report	31
Appendix D: Frequently Asked Questions	34

Scope and Work of the Committee

A town-ordered request for proposals for a facility assessment of the current station was answered by Sewell Infrastructure, which completed its site and building review and delivered its report to the town in late 2019. A volunteer committee was then appointed to review the assessment and make a recommendation to the town.

Committee members include current Fire Chief Robert Conary, Captain John Gray, and town residents Ed Dailide, Cliff Guthrie, Marc Restuccia, and Pete Robshaw. John Barlow, a former Orland Fire Chief, chairs the Committee. Orland selectmen Brenda Leavitt and Les Stackpole also sit on the Committee as ex-officio (nonvoting) members.

The Committee has been meeting monthly since September 2020 on the third Tuesday of each month and holding recent meetings via Zoom because of the pandemic.

Overview of the function of our fire station

The Orland Fire Department is an all-volunteer organization that responds to numerous types of emergency incidents, assists the public in various non-emergent requests, and provides fire prevention services and education. The volunteers receive no compensation for their response with the exception of certain forest fires that meet Maine Forest Service requirements. The members of the fire department are trained to meet or exceed Maine Bureau of Labor Standards and National Fire Protection Association requirements to respond to the types of calls it receives. What are the nature and frequency of the calls to which the OFD responds? A ten-year report of the calls answered are listed by type in Appendix A.

Overview of the fire station facilities

The Orland Fire Department has the Fire Station, two garage buildings (one for material storage and one to house our rescue boat and ATV trailer), and one additional small building used for firefighter training.

The original building, built in 1974, is a 44' x 60' pre-engineered metal building with a metal roof and siding and has three 10' x 10' overhead doors. It houses five vehicles and has a small office, rest room, and utility room. A 30' x 40' two-story wood framed addition was built in 1992. The first floor has a kitchen area, closets, and a large open meeting/training area. The second floor has two locker rooms with showers and restrooms, a bunk room, an office, and lounge.

The Orland Fire Station sits on a 0.59 acre lot that is low in relation to other properties and also very flat, making water drainage from the site difficult.

In the summer of 2019, James W. Sewall Company, a consulting firm in Old Town, was contracted by the Town of Orland to conduct a facility assessment of the fire station to identify facility condition deficiencies and determine whether the fire station was worth renovating or if it should be replaced. Sewall completed its assessment and issued a report to the town on November 26, 2019. A copy of the report with accompanying review comments by the Committee can be found in Appendix B and C respectively.

Studied Alternatives and Discussion

Early in the Committee's work we identified five alternatives to explore before any recommendation could be made.

1. Do nothing. Keep the current buildings we have without addressing major needed repairs
2. Contract with other area fire departments and reduce/eliminate the Orland Fire Department
3. Repair and renovate the existing fire station and rear addition
4. Demolish the existing fire station and rear addition and build anew on the existing site
5. Build a new fire station in a different location

In the course of its work, the Committee has followed due diligence to examine the costs and benefits to the town and its citizens of pursuing each of these possible alternatives. Sub-committees were tasked to explore each option and make reports back to the committee-of-the-whole. The findings are reported below.

Alternative 1: Do nothing

There is a cost for doing nothing. If we fix things before we are forced to do so it allows us to plan and prevent unforeseen failure. Doing nothing risks increasing costs of future remediation. In the case of the Orland Fire Station, by not correcting the deficiencies that have been documented we risk more than just the price of building repairs, we also risk our fire department rating and membership, and perhaps the health and safety of our volunteers. Our fire department is well equipped for a small community and, partly due to Orland's gateway location as a community to the surrounding area, it answers a relatively large number of calls compared to similar sized communities in Maine. Presently, Orland has 15 certified fire fighters and 22 support personnel. It is one of the few completely volunteer departments in Maine. Morale is high and the department functions well as a volunteer public safety agency.

Deficiencies in the present station include:

1. Site is too low to permit proper drainage and is prone to flooding
2. Floor slab has no proper drainage to permit washing vehicles inside
3. Roof and siding have leaks
4. Abandon masonry chimney is a potential safety hazard
5. No positive vehicle exhaust system, which results in toxic fumes accumulating inside
6. Insulation is inadequate
7. Windows are in poor condition
8. Storage space is inadequate
9. No hazard wash down area for firefighters and equipment
10. Overhead doors need to be replaced
11. Building does not meet ADA handicap requirements
12. Lighting fixtures are in poor condition
13. Pavement in front of the apparatus bay doors heaves in the winter
14. Bay doors are not adequate in height or width for modern standard fire apparatus
15. Limited space to work on the fire trucks or train in the apparatus bay

Operational deficiencies that the department experiences as a result of station obsolescence include:

1. The inability to wash apparatus in the station is resulting in unnecessary vehicle body and frame corrosion during winter months
2. Lack of overhead room makes it difficult to work on the top of the vehicles, for example, to pack hoses
3. Lack of space between the vehicles makes it difficult to train and do maintenance in the station.
4. Lack of storage space overall. Some storage space does not meet building fire codes
5. Replacement of fire apparatus must be custom designed to fit our small overhead doors. This can significantly increase the cost of fire apparatus and limit what we can buy in the future
6. Periodic flooding of the apparatus bay and training room compromises safety and degrades the building and equipment

Doing nothing at this point in time will not in the long run save either money or fire department morale and efficiency.

Alternative 2: Contract with Other Area Fire Departments and Reduce/Eliminate the Orland Fire Department

Due to the distance and the limited manpower of other area departments, it would be difficult for any of our neighboring communities to provide permanent fire coverage to the town of Orland. These communities also count on the Orland Fire Department for assistance when they have any type of major incident. Bucksport and Ellsworth are the only departments that are reasonable potential partners for outsourcing our needed services.

- An initial estimate of contracting with the Town of Bucksport suggests that even if Bucksport were willing and able to do so, contracting with that town would cost Orland over \$130,000 dollars a year with additional annual costs related to equipment and manpower. Contracting services out to Bucksport would also negatively affect Orland residents' ISO (Insurance Services Office) ratings and lead to property insurance increases. Contact with Bucksport Fire department indicated that they were not interested or equipped to contract fire services to Orland.
- The City of Ellsworth has also indicated that it is not able to contract with Orland. Even if this were possible, the response times from Ellsworth to Orland would be well outside the National Fire Protection Association (NFPA) requirements, and the ISO standards, again leading to increased insurance costs for Orland residents.

The current and proposed locations for the Orland Fire Department places a vast number of properties and homes within the ISO's five mile "premium rate" radius. The location also provides for the fastest average fire response times to most locations in Orland. In past years, the average response time for Orland Fire Department has been 11 minutes or less, even with volunteers responding from locations other than the fire station to calls in Orland.

Even if we were able to contract services with other communities, the higher emergency response times would inevitably mean higher risk to property and lives.

Alternative 3: Repair and renovate the existing fire station and rear addition

The Sewall facility condition assessment identified \$262K of deficiencies in the fire station and \$138K of deficiencies in the rear addition. These figures represent a combination of repairs (i.e. such as floor drainage, roof and siding leaks, window replacement, etc) and improvements (i.e. vehicle exhaust system, oil/water separator, 12' x 60' building addition, ADA compliance, raising floor level in the rear addition, etc). In addition to doing the building repairs, the \$261K of site improvements needs to be done in conjunction with the repairs to correct the drainage issues and keep the buildings from flooding and damaging the repair work. Total estimated cost per the report is \$661K. This estimate is not rigorous, it is meant for comparative purposes

In Committee review of the report and follow-up discussions with Sewall, it was confirmed that the total cost for repairing and renovating the existing buildings were not rigorous. They are understated for the reasons identified in Appendix C.

If this alternative were to be pursued, even after such a significant investment:

- The operational deficiencies that the department experiences as a result of station obsolesce identified in alternative 1 would not be corrected.
- Future fire truck replacements would be more expensive as the apparatus would need to be customized because the height restrictions of the existing station would remain.
- The proposed correction of inadequate space in the existing station through the recommended construction of a 12' x 60' building addition could not be accomplished. There is insufficient room between the adjoining property line and the fire station for the recommended addition.
- As this would be a major renovation, fire station operations would need to be relocated to a temporary facility if one could be identified. This would result in added project and operational costs not reflected in the construction cost estimates.

Alternative 4: Demolish the existing fire station and rear addition and build anew on the existing site

The Sewall facility assessment estimates the cost to demolish the existing buildings and build a new fire station and a new rear addition as \$380K and \$264K respectively. The \$261K of site improvements needs to be done in conjunction with the building replacements to correct the drainage issues. Total estimated cost per the report is \$905K. This estimate is not rigorous, it is meant for comparative purposes

In Committee review of the report and follow-up discussions with Sewall, it was confirmed that the total cost to demolish the existing buildings and construct replacement buildings were not rigorous. They are understated for the reasons identified in Appendix C.

While demolishing the existing fire station and building a replacement facility offers opportunities to address the operational deficiencies identified in Alternative 1, the existing lot size constrains the options for designing and constructing a replacement fire station to adequately address current and future requirements.

- The existing lot is a small narrow lot measuring 100' wide x 202' deep comprising only 0.59 acres.
- Constructing a new fire station would enable the door heights to be increased to 14'. However if the new building was constructed on the existing foundation, the overhead door widths could not be increased to the current 14' standard and consequently would not provide needed working space between vehicles. The width of the building needs to be increased from 44' to 56' to have three bays with 14' wide doors. For operational efficiencies, the replacement fire station should have four 14' bays which would increase the width of the building to 75'.
- The proposed correction of inadequate space in the existing station through the recommended construction of a 12' x 60' building addition would add another 12' to the width of the building. This would increase the width of the new building to 87' on a lot that is only 100' wide.

As both buildings would be demolished, fire station operations would have to be relocated to a temporary facility if one could be identified. This would result in added project and operational costs not reflected in the construction cost estimates.

Alternative 5: Build a new fire station in a different location

The Committee discussed the costs and benefits associated with building a new fire station on a new site. This option would allow the Town to sell or repurpose the existing fire station property upon completion of the new station. Demolition and disposal costs of the existing fire station would be avoided.

Generally, if the costs of repair/renovations exceed 50% of a replacement building, consideration should be given toward replacing the building. Unfortunately, the repair costs included in the Sewall report are over a year old and are less than rigorous as previously discussed, so making an exact cost comparison between repairing and building new is difficult, although it's likely to be at or above this 50% threshold. In addition, after spending a significant investment to repair the existing fire station, the town would still have a 45-year-old facility that is inadequate to meet current and future standards.

In considering potential sites for a new building, the Committee's attention was drawn to the fact that the Town already owns approximately 24 acres where the transfer station and salt shed are located.

Several committee members walked the property and in their opinion, there appeared to be a buildable site for a new fire station. The land has a natural slope which should help with drainage around a new building.

Further discussions emphasized these points:

- Building on a vacant site would allow the design to be physically unconstrained by our current lot size. The new layout would be designed to increase operational efficiencies and would address the identified overhead door size, bay configurations, and inadequate space deficiencies. There would also be sufficient land for any needed expansion in the future.
- Building the replacement fire station at a different site would allow fire station operations to continue at the existing site until completion of construction. This would eliminate the added project costs for a temporary fire station during construction. All of the replacement fire stations in neighboring communities that were visited were constructed on vacant lots.

Since the Sewall report did not consider building a new fire station in a different location, Lewis and Malm Architecture of Bucksport, was contracted to develop an initial conceptual design for that option. Working with the committee, initial building requirements for a new fire

station were identified from which a draft conceptual floor plan was developed. It was determined that the existing town property appeared to be a viable site for a new fire station.

Final Committee Recommendation

Upon due consideration of these five alternatives, the Ad Hoc Orland Fire Station Committee recommends to the Orland Town Selectmen that the best alternative is to build a new station at a different location on existing town owned property. The long-term costs and drawbacks of the other four alternatives render them unviable for the sake of the efficiency and effectiveness of the Fire Department and the safety of the Town and its residents. A new state of the art fire station will enhance public safety, and significantly improve the effectiveness and efficiency of its all-volunteer department. The new fire station will be a point of pride for our town and signal our commitment to growth and modernization. It will serve us well for another fifty years and be a public asset not only fitting for our highly respected fire department, but for other town needs for safety education and other relevant programming.

During its meeting on Tuesday, May 18, 2021, a motion was made to approve this report and its conclusion. The motion was seconded and passed by the Committee.

Respectfully Submitted to the Town of Orland Selectmen

Committee Members

John Barlow, Chair
Bobby Conary
Ed Dailide
John Gray
Cliff Guthrie
Marc Restuccla
Pete Robshaw

Appendix A: Ten-year Fire Department Call Data

Call Type/Year	2010	11	12	13	14	15	16	17	18	19	Total
Structure Fires	8	8	13	13	8	9	7	12	5	10	93
Assist Other Agencies/EMS Assists		10	7		10				4	10	41
Vehicle/Mobile Property Fires	1	2	1				3	3	2		12
Chimney Fires	1	1	1	2				6	2	2	15
Wildland/Grass/Woods Fires	6		3	6		4	11	8	2	3	43
Unauthorized Burns	6	2	2	5							15
Severe Weather Storm Related Calls, downed trees	8	14	27	29		10	14	18	2	16	138
Misc. Service Calls	12	4	2						2		20
Downed power lines - Electrical Problems	4	3							4		11
Animal Rescue	1										1
Motor vehicle crash w/ injury	11	17	23	17	15	14	15	17	9	14	152
Motor vehicle crash w/o injury	18	14	8	6	10	11	15	8	6	19	115
Flooded Basements					5						5
Good Intent/False Alarm		8	6								14
Hazardous Material Investigation/Fuel Leak, Spills	1	1	3								5
Other Fires/General Calls							4		3	3	10
Water, Ice, Boat Response	3	1		2					2		8
Cancelled en route			4							8	12
Carbon Monoxide incident									1		1
Station Coverage/Stand By									9	10	19
Alarms										2	2
Other Calls			17	23	39	35	26	21	17	13	191
Totals	80	85	117	103	87	83	95	93	70	110	923

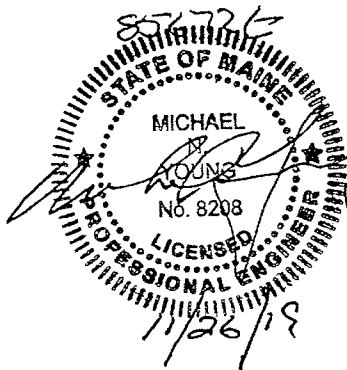
Appendix B: Sewall Facility Assessment of Orland Fire Station (see following 17 pages)



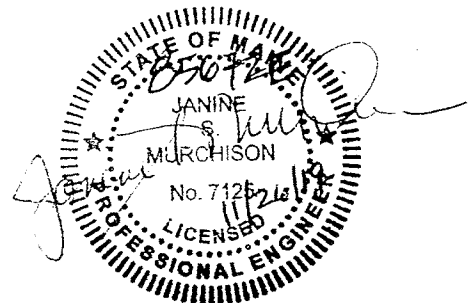
The evolution of expertise

An integrated team of geospatial, engineering, and natural resource consultants,
Sewall partners with clients to create practical, sustainable solutions.

FACILITY ASSESSMENT OF ORLAND FIRE STATION



Prepared for:
Town of Orland, Maine
November 26, 2019





Facility Assessment of Orland Fire Station

Table of Contents

1.0	General	1-1
2.0	Visual Observations.....	2-1
3.0	Deficiencies/recommendations	3-1
4.0	Summary by Priority.....	4-1
5.0	Photographs.....	5-1



1.0

GENERAL

EXECUTIVE SUMMARY

The scope of work for this facility assessment included a determination of whether the Orland Fire Station building is worth renovating or if it should be replaced. Generally, if the cost of all the renovations is greater than 50% of the replacement value of the building, then serious consideration should be given toward the replacement of the fire station.

Based on the findings of this study, the cost to address the found deficiencies for the fire station is 69% of the cost to replace the fire station. The cost to address the found deficiencies for the rear addition is 52% of the cost to replace the rear addition.

SUMMARY

Total cost to address Fire Station found deficiencies:	\$262,000
Estimated cost to demolish existing and build new fire station:	\$380,000
Percent Cost for Deficiencies/Cost for Replacement Building:	69%

Total cost to address Rear Addition found deficiencies:	\$138,000
Estimated cost to demolish existing and build new rear addition:	\$264,000
Percent Cost for Deficiencies/Cost for Replacement Building:	52%

Cost Estimate for Site Deficiencies:	\$261,000
--------------------------------------	-----------

The cost for addressing the site deficiencies is independent of, and in addition to, the renovation or replacement of the buildings.

THE REPORT

The site visit for the facility assessment was completed on October 25, 2019. Michael N. Young, PE, from James W. Sewall Company (Sewall) was joined by Mr. Bob Conary, Fire Chief. Mr. Young was assisted with this report by Janine S. Murchison, PE, also with Sewall, who had an opportunity to visit the site with Mr. Conary on August 27, 2019.

This report is broken down into basic building components and subject areas. It reviews the physical condition of the building and the immediate grounds and provides recommendations for addressing found inefficiencies and deficiencies.

The intent of the recommendations is to restore the building to maximize its useful life. Each recommendation is given a priority number based on its importance. Life Safety and code issues should be addressed according to their assigned priority. A summary is included in Section 4 and photographs are shown in Section 5. Data was collected through an on-site review of the building and discussions with staff. General maintenance items are typically not included.

Estimates are in today's dollar values. Budgets are based on all items within a particular priority period being addressed at the same time and include contingency and engineering where applicable.

PRIORITY KEY

- Priority 1:Currently Critical
- Priority 2: Potentially Critical
- Priority 3: Necessary, Not Yet Critical
- Priority 4:Recommended
- Priority 5:Does Not Meet Current Codes/Standards





2.0

VISUAL OBSERVATIONS

DIRECTION OF SITE AND BUILDINGS

Note that actual 'north' runs diagonal through the buildings; for this report we have established that 'plan north' is parallel to School House Road, and, in turn, the overhead doors of the fire station therefore face 'westerly'. All direction descriptions in this report have been based on 'plan north'.

FIRE STATION

The Orland Fire Station was built on a small lot (less than 1 acre) on School House Road. It consists of two buildings attached by a connecting hall. The original building (fire station) was built in 1974 and is 44' x 60' in size. It is a pre-engineered metal building with metal roof and siding. It houses five vehicles and has three (3) 10ft x 10ft overhead doors facing School House Road, three (3) exterior metal doors, and six (6) single pane sliding windows. There is also a small office, rest room, and utility room.

The interior has spray foam on the ceiling and a coating that may have some fire rating. Testing of this material is recommended prior to any construction renovations. Exterior walls are sheathed with plywood. It is unknown if there is any insulation behind the plywood.

A 200-amp service and circuit panel services this area. Three (3) propane heating units provide space heating and domestic hot water. The LP unit in the utility space is water based and provides domestic hot water and baseboard heat for the rear addition. The other two LP units are located in the space over the utility and restroom and provide heated air through a duct system for the fire station only. An abandoned masonry chimney is located on the south side of the building, near the attaching hall. There is no positive exhaust system to address truck exhaust. The clear height of the building is 10'-0" which limits truck height capacity. The existing trucks have had to be modified to accommodate existing conditions and the height limits the size and availability of replacement vehicles. The only way to address the height clearance issue is to replace the building.

Water is provided by an onsite drilled well that has a water softener located in the utility space. No water testing information is available. The sewer is tied to the public sewer system.

Interior and exterior lighting for the fire station is fair to poor.

REAR ADDITION

The rear addition is 30ft x 40ft and was built about 1992. It is a two-story wood framed building on a frost wall/slab with vinyl siding, architectural shingles, double-hung double-paned windows, and two (2) sets of exterior doors.

The first floor has a kitchen area, a storage closet under the stair, two other closets, and a large open meeting area. The stair to the second floor is enclosed. Upstairs, there are two locker rooms with showers and rest room facilities. A bunk room and an office are also located on the second floor. The rest of the second-floor space is a lounge area.

Both the fire station and the addition are tied to a monitored alarm system that has low heat, smoke, and motion sensors. The addition also has manual fire alarm pull stations at each door that activates an on-site alarm. This is not tied into the monitored system.

The electric service is supplied through a 100-amp subpanel that feeds off the 200-amp main panel in the fire station. The electrical system is in good condition.

The connecting section between the two buildings is a 10ft x 18ft single story wood framed structure with an EPDM roof, vinyl siding, and one metal exterior door.

SITE

The southerly and easterly sides of the buildings have a mix of gravel and grass surfaces. A variety of support buildings and training structures are located on the northerly and easterly (rear) sides. A bituminous paved driveway runs from the westerly (front) side of the fire station to the road and is about 60ft x 60ft in size.

The site is low in relation to adjacent properties. The site is also very flat and does not have ditches or any organized drainage system to remove storm water. Both buildings are reported to flood periodically, and water damage is visible. This creates a potential electrical hazard with electrical lines that are on or near the floor. It is probable that the wood, gypsum and other organic materials in the lower walls may have mold in areas that have been repeatedly wet. The lack of drainage creates significant frost heaves in front of the overhead doors. Due to the very low available clearance through the overhead doors, it is reported that these frost heaves often interfere with and/or block the firetrucks from entering or exiting the building.

There is a shallow ditch running southerly along the road in front of the adjacent property to the south. It empties into a shallow 15" cross culvert that goes to the property across the road. The existing right-of-way is too narrow to develop this ditch to the required grade and the town reportedly has no easement or right-of-way to develop the outfall on the property owner's land across the road.

Using ADAAG guidelines, the building does not meet handicap requirements. Though not required for the Fire Department crew, it is required to be provided for staff and support personnel that work in or require access to the building.



3.0

DEFICIENCIES/RECOMMENDATIONS

3.1 SITE DEFICIENCIES

The entire site around the perimeter of the fire station and rear addition is too low to allow for proper drainage. The entire site needs to be regraded to drain away from the buildings and a full-depth catch basin and underdrain system is recommended.

- A. Install a full-depth catch basin and underdrain system around the perimeter of the two buildings. As the elevation of the existing drainage ditch and 15" cross culvert located southerly of the site is too shallow for the proposed catch basin system, the catch basin system will need to continue across School House Road and run southerly along the road until it reaches the outfall of the existing 15" culvert.* (See photos 3.1.A)

Cost \$105,000.....Priority 1

*Note that the outfall area will need to be excavated to a deeper elevation to allow for proper drainage. Temporary or permanent easements may be required by the Town for the work outside of the Town's right-of-way; outfall excavations and easement costs are beyond the scope of this facility assessment.

- B. Regrade the driveway at the front/westerly side of the fire station all the way to the road in order to provide positive drainage away from the building. Excavate the existing pavement and gravel material and install crushed, screened gravel, meeting Maine Department of Transportation (MaineDOT) specifications, over geotextile fabric; proposed underdrain along the westerly face of the building will be installed as part of the catch basin underdrain system noted above; additionally, to further minimize frost heaving at the overhead doors, install high density rigid insulation within the gravel layers. Repave the area. (See photos 3.1.B)

Cost \$65,000.....Priority 1

- C. Regrade the northerly, southerly, and easterly sides of the fire station and rear addition in order to provide positive drainage away from the buildings and to provide appropriate grading for the catch basin and underdrain system. Excavate the existing pavement and gravel material and install crushed, screened gravel, meeting Maine Department of Transportation (MaineDOT) specifications; add rigid insulation within the gravel layers in front of each

exterior door to minimize heaving. Repave the area adjacent to the fire station on the southerly side of the building. (See photos 3.1.C)

Cost \$50,000.....Priority 1

- D. Pave the newly installed gravel areas on the remaining southerly and easterly sides of the two buildings to provide an improved drainage path to the catch basin system. (See photo 3.1.D)

Cost \$30,000.....Priority 4

- E. Sanitary drains reportedly freeze during the winter. Excavate to locate the existing sanitary piping, and bed the trench with sand, install rigid insulation over the sanitary piping, replace gravel layer, and repave.

Cost \$6,000Priority 1

- F. For ADA compliance, install a minimum of two handicap parking spaces, complete with site markings, signage and marked travel way to both the fire station and rear building.

Cost \$5,000Priority 5

3.2 FIRE STATION DEFICIENCIES

- A. The existing floor drains are higher than the surrounding floor. The outfall is unknown and water reportedly often bubbles up through the drains during high water events. In addition, there is no oil/water separator system to prevent oil from leaving the site. The existing drains should be lowered and re-piped to a new oil/water separator. The oil/water separator should be plumbed per appropriate codes. Replace portions of the concrete floor as needed. (See photo 3.2.A)

Cost \$26,000.....Priority 2

- B. The roof and siding leak. It has an exposed fastener system that generally lasts 20 to 25 years; the existing roof and siding are over 45 years old. Patching has been done over the years. Replace the metal roof and siding. (See photo 3.2.B)

Cost \$40,000.....Priority 3

- C. The abandoned masonry chimney is in poor condition and is a potential safety hazard. Remove the abandoned chimney and patch the wall. (See photo 3.2.C)

Cost \$1,000Priority 1

- D. The original building exhaust system is not functional and is a source of air and water leaks. Remove it and patch the wall. (See photo 3.2.D)

Cost \$4,000Priority 3

- E. The fire station bays have no positive vehicle exhaust systems to protect the crew from exhaust fumes when starting up and or running the vehicles. Install vehicle exhaust systems with flexible connections.

Cost \$32,000.....Priority 1

- F. The ceilings and walls in the restroom and utility space have damage. Repair and refinish as needed. (See photo 3.2.F)

Cost \$1,000Priority 4

- G. There is inadequate wall and ceiling insulation. Install additional insulation in the ceilings and walls to meet current standards. Remove the plywood walls, remove any found water damaged materials, strap as needed, install insulation, and sheath over the ceiling and walls with metal liner panel.

Cost \$45,000.....Priority 4

- H. The windows are in poor condition and the man doors are in fair to poor condition. Replace the doors and windows. (See photo 3.2.H)

Cost \$12,000.....Priority 4

- I. There is inadequate space in the existing fire station building. Some equipment is stored in sheds out back. There is no wash down area for firemen and equipment, very limited storage, and limited area for movement between vehicles. Add a 12-foot by 60-foot addition with overhead door to the northerly side of the building. (See photos 3.2.I)

Cost \$54,000.....Priority 2

- J. The overhead doors and motors are in fair condition and should be replaced. (See photo 3.2.J)

Cost \$18,000.....Priority 4

- K. The light fixtures are in fair to poor condition and should be replaced. Additional fixtures and receptacles are also required. (See photo 3.2.K)

Cost \$12,000.....Priority 3

- L. There is a PVC pipe system being used to keep the brake air pressure up on the diesel vehicles. It is constructed from domestic water pipe. It should be replaced with a rated system for the required air pressure.

Cost \$1,000Priority 1

- M. For ADA compliance, provide the following: Install braille signage and lever latch sets at all interior and exterior doors. Install ADA compliant landing at all exterior doors and provide a walkway from each to ADA parking and/or ADA loading areas. Install fire alarm strobe lights in all accessible rooms and areas. Modify the restroom sink and add grab bars to the toilet.

Cost \$16,000.....Priority 5

3.3 REAR ADDITION DEFICIENCIES

- A. The under-stair storage is required to have a 1-hour fire rating and be sprinkled. Discontinue use for storage or modify as noted. Line the storage with two layers of 5/8-inch type X fire rated gypsum wall board (GWB). Replace the door with a 1-hour fire rated door and install a single head sprinkler tied into the existing domestic water system. (See photo 3.3.A)

Cost \$4,000Priority 1

- B. Water is reported to be heard gurgling in the conduit from the subpanel during high site water events. The source of the leak should be identified and repaired. (See photo 3.3.B)

Cost \$4,000Priority 1

- C. The first floor periodically floods due to the low elevation of the floor relative to the outside grades. Flooring is damaged. Wall construction is wood frame with interior GWB that is susceptible to water damage and potential mold growth. Grading options are very limited for this portion of the building and raising the floor level is recommended. Remove existing flooring and install a new 7-inch concrete floor to match stair tread. Raise exterior and interior doors. Notch out walls to remove water and/or mold damage, and to fit onto the raised concrete. Install new flooring. The regrading around the building to improve drainage is covered with site items noted above. (See photo 3.3.C)

Cost \$36,000.....Priority 2

- D. The fire alarm pull stations must be tied into the monitoring system to meet code requirements. Tie the alarm pull stations into the monitored alarm system. It is assumed that this will also require replacing the existing panel. (See photo 3.3.D)

Cost \$26,000.....Priority 1

- E. For ADA compliance, provide the following: Install braille signage and lever latch sets at all interior and exterior doors. Install ADA compliant landing at all exterior doors and provide a walkway from each to ADA parking and or ADA loading areas. Install fire alarm strobe lights in all accessible rooms and areas. Modify the kitchen sink and a portion of the counter to meet ADA requirements. Install a lift to access the second floor. Modify one shower and one sink in each of the second floor locker rooms for ADA accessibility.

Cost \$68,000.....Priority 5



4.0

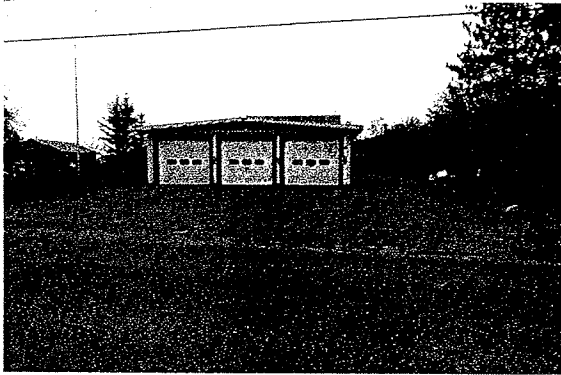
SUMMARY BY PRIORITY

Section	Description of Work	Estimate	Priority
3.1.A	Catch basin and underdrain system	\$105,000	1
3.1.B	Regrade/pave westerly side of fire station	\$65,000	1
3.1.C	Regrade northerly, southerly, easterly sides of fire station and rear addition	\$50,000	1
3.1.E	Insulate sanitary piping	\$6,000	1
3.2.C	Remove abandoned chimney	\$1,000	1
3.2.E	Install vehicle exhaust system	\$32,000	1
3.2.L	Install rated air pressure system	\$1,000	1
3.3.A	Provide fire rating for under-stair storage	\$4,000	1
3.3.B	Repair leak in electrical conduit	\$4,000	1
3.3.D	Replace alarm panel, tie in all pull stations	\$26,000	1
Priority 1 (Currently Critical) Total		\$294,000	
3.2.A	Repair floor drains, install oil/water separator	\$26,000	2
3.2.I	Construct addition to fire station	\$54,000	2
3.3.C	Raise floor of rear addition	\$36,000	2
Priority 2 (Potentially Critical) Total		\$116,000	
3.2.B	Replace metal roof and siding	\$40,000	3
3.2.D	Remove building exhaust system	\$4,000	3
3.2.K	Replace lights; add new lights & receptacles	\$12,000	3
Priority 3 (Necessary; not yet critical) Total		\$56,000	
3.1.D	Pave southerly, easterly sides of fire station and rear addition	\$30,000	4
3.2.F	Repair ceilings/walls in restroom/utility	\$1,000	4
3.2.G	Install wall/ceiling insulation	\$45,000	4
3.2.H	Replace doors and windows	\$12,000	4
3.2.J	Replace overhead doors and motors	\$18,000	4
Priority 4 (Recommended) Total		\$106,000	
3.1.F	Install ADA handicap parking spaces	\$5,000	5
3.2.M	Install ADA signs; door hardware; compliant landings; fire alarm strobes; restroom modifications	\$16,000	5
3.3.E	Install ADA signs; door hardware; compliant landings; fire alarm strobes; kitchen, restroom, & shower modifications; access lift	\$68,000	5
Priority 5 (Does not meet current codes/standards) Total		\$89,000	

Grand Total for Priorities 1 through 5:

\$661,000

5.0 PHOTOGRAPHS



3.1.A Westerly side of fire station



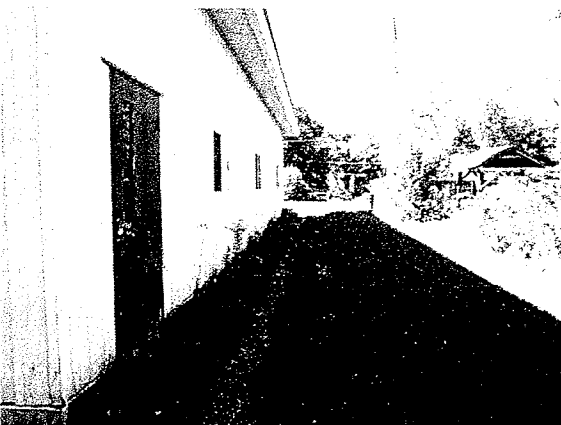
3.1.A Existing conditions southerly of site



3.1.B Westerly side of fire station



3.1.B Existing settlement at OH doors



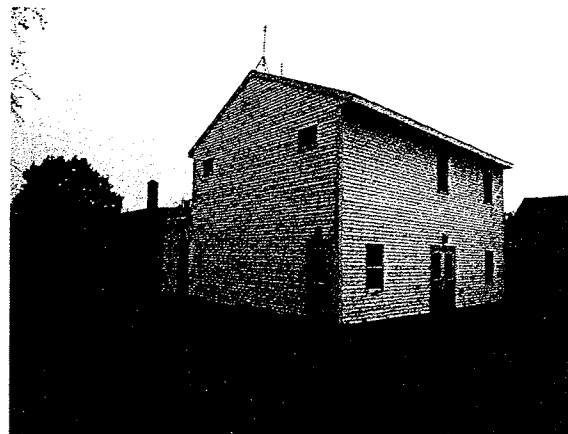
3.1.C Northerly side of fire station



3.1.C Southerly side of fire station/addition



3.1.C Easterly side of rear addition



3.1.D Southerly & easterly sides of buildings



3.2.A Floor drain



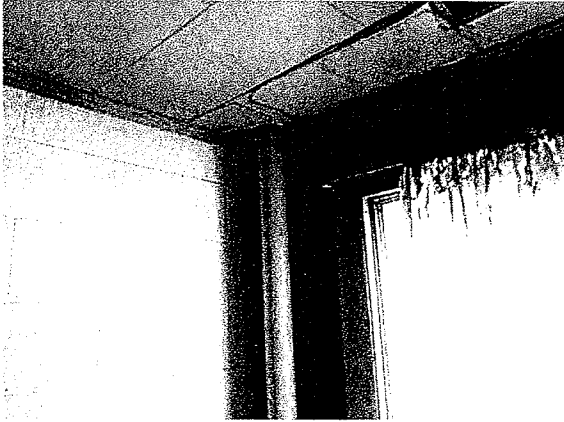
3.2.B Metal roof and siding



3.2.C Abandoned chimney



3.2.D Building exhaust



3.2.F Restroom damage



3.2.H Windows and doors



3.2.I Lack of space



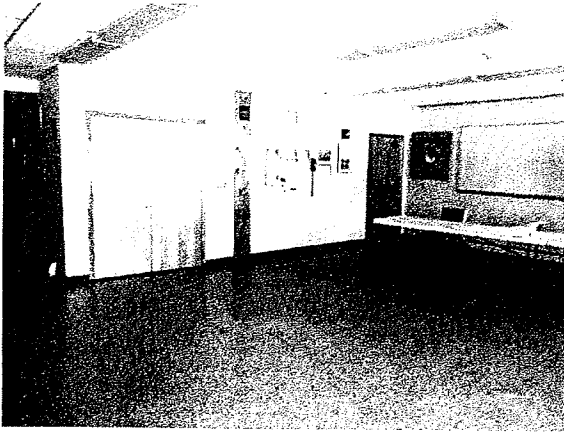
3.2.I Lack of space



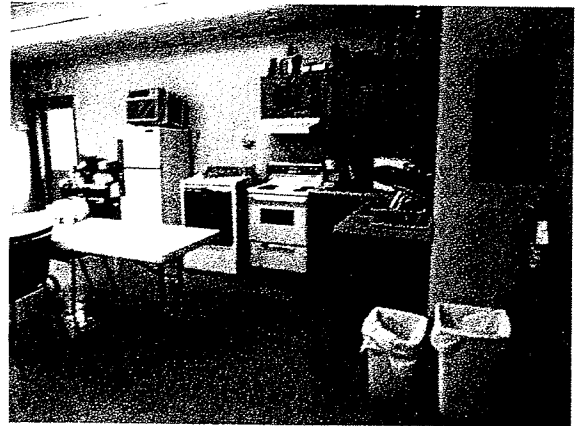
3.2.J Overhead door and motor



3.2.K Light fixtures



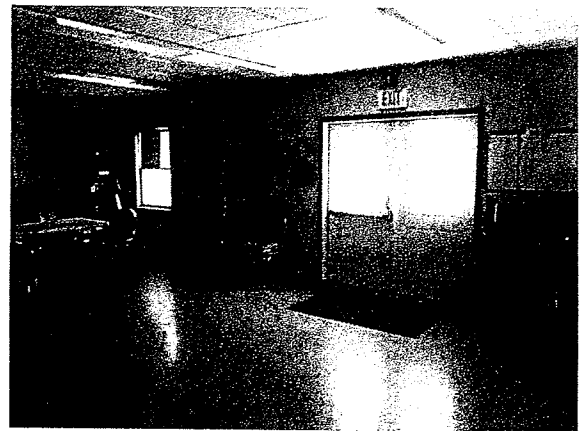
3.3.A Closet under the stairs



3.3.B Electrical subpanel with leak at conduit



3.3.C Floor damage at rear addition



3.3.D Fire alarm pull station next to door

No photo

No photo

Sewal

Appendix C: Committee Review of the Sewall Report

In the summer of 2019, James W. Sewall Company, a consulting firm in Old Town, was contracted by the Town of Orland to conduct a facility assessment of the fire station to identify facility condition deficiencies and determine whether the fire station is worth renovating or if it should be replaced. Sewall completed its assessment and prepared its report work for the town on November 26, 2019 (Appendix A). The Sewall facility condition assessment identified \$262K of deficiencies in the fire station and \$138K of deficiencies in the rear addition. Additionally, the cost to address drainage issues on the site was estimated to be \$261K.

After a thorough review of the written report and follow-on discussions with the report's preparers, the Committee offers the following comments:

Repair and renovate existing fire station and rear addition

The cost estimate to correct the identified \$262K of deficiencies in the fire station and \$138K of deficiencies in the rear addition is a combination of repairs (i.e. such as floor drainage, roof and siding leaks, window replacement, etc) and improvements (i.e. vehicle exhaust system, oil/water separator, 12' x 60' building addition, ADA compliance, raising floor level in the rear addition, etc). In addition to doing the building repairs, the \$261K of site improvements needs to be done in conjunction with the repairs to correct the drainage issues and keep the buildings from flooding and damaging the repair work. Total estimated cost per the report is \$661K.

Discussion:

- In follow-up discussions with Sewall, it appears that the total cost for repairing and renovating the existing buildings is understated for the following reasons:
 - While engineering and contingency are included in the estimates, bidding costs and project monitoring are not.
 - The cost estimates include a 15% contingency. For a new construction project at a pre-design stage, the industry standard for contingency is 20%. Additionally a major repair project typically has significant unknowns by the very nature of the work. Contingency is typically a bit higher for a major repair project.
 - Recommendation 3.1.A recommends installing a full-depth catch basin and underdrain system around the buildings to be connected to an outfall on the other side of School House Road. It notes that the outfall area will need to be excavated to a deeper elevation, but that estimating outfall excavations and easement costs were beyond the scope of the assessment and are not included.

- As this would be a major renovation, fire station operations would need to be relocated to a temporary fire station resulting in added project costs not reflected in the construction cost estimates.
- The clear height of the overhead doors is 10' which limits truck the size and availability of replacement vehicles. The existing trucks had to be modified to accommodate the low door height. Future fire truck replacements would also need to be customized because of the height restrictions. The current overhead door standard for a fire station is 14' x 14'. The only way to address the height clearance issue is to replace the building.
- The facility assessment recommends constructing a 12' x 60' building addition on the north side of the fire station to address inadequate space. Upon further review, there is insufficient room between the adjoining property line and the fire station for the recommended addition.
- While the repair project would increase the energy efficiency of the building through added insulation, lighting, and window upgrades, the heating system would not be upgraded. Recently built fire stations in local communities have radiant heat for increased energy efficiency.

Demolish existing fire station and rear addition and build new

The facility assessment estimates the cost to demolish the existing buildings and build a new fire station and a new rear addition as \$380K and \$264K respectively. The \$261K of site improvements needs to be done in conjunction with the building replacements to correct the drainage issues. Total estimated cost per the report is \$905K.

Discussion:

- In follow-up discussions with Sewall, it appears that the total to demolish the existing buildings and construct replacement buildings cost of the project is understated for the following reasons:
 - The new construction estimates are a soft number. It is based on a unit cost for a steel framed basic building, not a firehouse. The estimate includes basic installed equipment such as boilers and utilities, but does not include firehouse specific equipment such as compressors, emergency generators, exhaust systems, etc.
 - Sewall assumed the demolition costs to be minimal. The allowance for demolishing the existing buildings in the estimate is \$10K. Demolition and disposal costs would be significantly higher.
 - While engineering and contingency are included in the estimates, bidding costs, project monitoring and other soft costs are not.

- The cost estimates include a 15% contingency. For a new construction project at a pre-design stage, the industry standard for contingency is 20%.
- Recommendation 3.1.A recommends installing a full-depth catch basin and underdrain system around the buildings to be connected to an outfall on the other side of School House Road. It notes that the outfall area will need to be excavated to a deeper elevation, but that estimating outfall excavations and easement costs were beyond the scope of the assessment and are not included.
- As both buildings would be demolished, fire station operations would need to be relocated to a temporary fire station resulting in added project costs not reflected in the construction cost estimates.
- The existing lot is a small narrow lot measuring 100' x 202' comprising 0.59 acres. That constrains the options for designing and constructing a replacement fire station to adequately address current and future requirements.
- Constructing a new fire station would enable the door heights to be increased to 14'. However if the new building was constructed on the existing foundation, the overhead door widths could not be increased to the current 14' standard and consequently would not provide needed working space between vehicles. The width of the building would need to be increased from 44' to 56' to have three bays with 14' wide doors requiring the existing foundation to be removed. Ideally for operational efficiencies, the replacement fire station should have four 14' bays which would increase the width of the building to 75'.
- The assessment identified that there was inadequate space in the existing fire station and recommended building a 12' x 60' building addition on the north side of the fire station. Upon further review, there is insufficient room between the adjoining property line and the fire station for the recommended addition.
- While building a new fire station on the existing site would increase the energy efficiency of the building through added insulation, lighting, and window upgrades, a radiant heating system could not be installed unless the existing floor was demolished increasing the cost of construction.

Appendix D: Frequently Asked Questions

What is the Orland Fire Department and what does it do?

The Fire Department is an all-volunteer organization that responds to numerous types of emergency incidents, assists the public in various non-emergent requests, and provides fire prevention services and education. The volunteers receive no compensation for their response with the exception of certain forest fires that meet Maine Forest Service requirements. The members of the fire department are trained to meet or exceed Maine Bureau of Labor Standards and National Fire Protection Association requirements to respond to the types of calls it receives.

What buildings do we currently have?

The Orland Fire Department has the Fire Station, two garage buildings (one for material storage and one to house our rescue boat and ATV trailer), and one additional small building used for firefighter training.

What vehicles do we have?

- Two Class A Pumper Engines
 - Ford KME Engine (2009)
 - Pierce International Engine (1999). This truck has advanced corrosion on the frame
- 1987 Metalfab Forestry Engine (1987) Decertified for structural firefighting because it failed the pump test, so it was placed into wildland fire service instead.
- Transco International Tanker (1994). Does not have an onboard pump, greatly reducing its effectiveness in most mutual aid roles requiring the ability to pump off water.
- Ford Rescue Truck (2012)
- 16-foot inflatable rescue boat with trailer
- ATV trailer with a small trailer towable behind an ATV

Note: We do not currently own an ambulance. The town contracts with Bucksport Ambulance for EMS Coverage. The Fire Department assists the Ambulance when requested.

Why do we need to do something at all? What is wrong with the current building?

A full assessment of the station was completed by the Sewall company in November 2019, which outlines the deficiencies and recommendations for remediation. Those deficiencies noted include the following:

- The current building is too narrow, not deep enough for modern engines, and too short.
- With only three bays our equipment is stacked, meaning that depending on the call we receive the engines must often be brought out and rearranged before they can depart for the call.
- The entrance doors are not high enough to accommodate modern fire apparatus. This means that any replacement engines we might buy in the future would have to be modified or custom ordered to accommodate the doors.
- Because of the way the land lies, both the main station and the training room flood anytime there is any significant rain. There is no cost effective way of improving the drainage without intruding on neighboring property.
- The floor drains in the existing station are inoperable, making it impossible to rinse and wash the vehicles properly in sub-freezing temperatures. This greatly contributes to corrosion to the fire trucks, reducing their useful lifespans.
- The current station does not meet all ADA requirements, has no system for exhaust evacuation, is very energy inefficient, leaks from both the roof and siding, and has a number of other deficiencies.

What would need to be done to repair and update our existing structures?

It would take significant work to do so.

- The concrete slab would need to be substantially demolished, raised, and rebuilt to allow the floor drainage system to be rebuilt and to raise the floor above the current grade to address flooding.
- The roof and ceiling would need to be raised at least 6 feet to allow for current and future apparatus to enter and be serviced (and reloaded with hose and suppression supplies. However, for this to happen, the walls having to be extended, making this an impractical option).
- The roofing and wall systems need replacing to address the leaks.
- Space would need to be added in some form to expand the usable area for storage and work areas.
- The rear addition would need to be raised/modified/demolished to address flooding issues and make room for potential bay expansion.

- The entire lot would need to be excavated to change the grade of the land and building to address water runoff.
- A diesel exhaust removal system would need to be purchased and installed.
- An oil/water separator would need to be installed for the floor drain system.
- Lighting would need to be upgraded as well.
- Modifying/rebuilding the floors, walls, and roof would mean that plumbing and electrical systems would also need to be replaced.

Even if these repairs were practical, the building would still be substantially too small to meet the current and future needs of the department.

How much did the Sewell Assessment estimate these repairs would all cost?

The Sewell estimate did not address the actual scope of needed repairs. Sewall was requested to do an overall condition assessment of the facility, not a detailed engineering investigation with development of preliminary designs. Based on the limited scope of the Sewall assessment, the cost estimates in the report are not likely to be close to true costs based on a more detailed engineering report. They also do not include other project costs such as relocating fire station operations to a temporary facility during the extensive construction period.

Can the station expand in its current location?

The lot on which the fire station is located is a little over half an acre and only one hundred feet wide. The existing station takes up most of the width of the current lot; therefore there is not adequate room to expand the width of the station. Expansion on the back side would require the demolition of the training room, and loss of already insufficient parking space.

Can we completely demolish and rebuild in the present location?

It is possible, but it would be impractical since fire station operations would need to be relocated to a temporary location. Additionally the small lot size would severely constrain design options for a replacement fire station that would meet current and future needs.

Do we have other building location options?

The town owns approximately 24 acres of land where the transfer station and salt shed are located. There appears to be buildable land there for a new fire station. Building on a vacant site would allow the design to be unconstrained by the current lot size. There would also be sufficient land for future expansion. Building the replacement fire station on a new site would allow fire station operations to continue at the existing station until completion of the new construction.

What possibilities are there for contracting out our fire and emergency services?

Due to the distance and the limited manpower, it would be difficult for any of our neighboring communities to provide permanent fire coverage to the town of Orland. These communities also count on the Orland Fire Department for assistance when they have any type of major incident. Orland is fortunate to have over 15 SCBA qualified interior firefighters. Losing these firefighters would not only negatively affect Orland residents but the county as a whole due to the interdependence of all area fire departments with regards to available manpower..

Bucksport and Ellsworth are the only departments that are reasonable potential partners for outsourcing our needed services.

- An initial estimate of contracting with the Town of Bucksport suggests that even if Bucksport were willing and able to do so, contracting with that town would cost Orland over \$130,000 dollars a year plus additional costs related to equipment and manpower. Contracting services out to Bucksport would also negatively affect Orland residents' ISO (Insurance Services Office) ratings and lead to property insurance increases.
- The City of Ellsworth has already indicated that it is not able to contract with Orland. Even if this were possible, the response times from Ellsworth to Orland would be well outside the National Fire Protection Association (NFPA) requirements, and the ISO standards, again leading to increased insurance costs for Orland residents.

The current and proposed locations for the Orland Fire Department places a vast number of properties and homes within the ISO's five mile "premium rate" radius. The location also provides for the fastest average fire response times to most locations in Orland. In past years, the average response time for Orland Fire Department has been 11 minutes or less, even with volunteers responding from locations other than the fire station to calls in Orland.

What are some advantages to building new?

- Building on a vacant site would allow the design to be physically unconstrained by the current lot size.
- The new layout would be designed to increase operational efficiencies and would address the identified overhead door size, bay configuration, and inadequate space deficiencies.
- Because the current fire station's overhead doors are 10' x 10', the existing fire trucks had to be specially modified to accommodate the low door height. Future replacement fire trucks would also have to be specially modified unless the door height is increased to the current fire station overhead door standard of 14' x 14'. The only way to increase the door size is to build a new building.
- There would be sufficient land for future expansion.
- Building the replacement fire station on a new site would allow fire station operations to continue at the existing station until completion of construction.

What other local towns have recently built new stations?

Penobscot, Sedgwick, Dedham, Winterport, Orrington, and Corinth. The Committee has visited some of these departments to get a sense of what these towns have learned in their own building processes and what designs and equipment might best serve the needs of Orland.

How will the town decide what to do?

The Fire Station Building Committee is looking at all options and will make a recommendation to the Selectmen. Before making that recommendation, the Committee plans to request an evaluation of the town-owned land as a possible site for a new station as well as a conceptual design to determine potential costs.