EVART DEPOT

EVART CITY HALL

Evart, Michigan

MAINTENANCE ANALYSIS AND PLAN

Commissioned by the City of Evart

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Written by:
Grace A.M. Smith, R.A., LEED AP
200 E. Division Street
Rockford, Michigan 49341
616-866-4089
designsmiths@hotmail.com

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EXECUTIVE SUMMARY

Purpose

The purpose of this Maintenance Analysis and Plan is to document existing conditions of the Evart Depot, determine a prioritized plan for necessary maintenance and restoration, and to prevent the loss of character-defining features and materials during maintenance and restoration. Future maintenance and restoration work should have the least possible impact on the historic aspects of the property studied and employ nondestructive methods to the maximum extent possible.

Research Completed

One trip to the site was made to get a first hand view of the conditions, to take photographs and to talk with the Interim City Manager, Sarah Dvoracek and the Director of Public Works and Zoning, Mark Wilson. This trip and photographs provide a base from which to work. Further discussions were had via email regarding maintenance and repairs made in the past. Email communications with, including two photographs from, two former architects who worked (while with architectural firm Tomblinson Harburn Associates from Flint, Michigan) on the project when the restoration was completed in the 1990s also contribute to this report. Historic photographs were provided by Mark Wilson and Google Images. Contemporary photographs without snow were borrowed from Google Images.

Major Research Findings

The Evart Depot is historically and architecturally significant as an intact example of a nineteenth century wood framed railroad depot. Although these once were prevalent throughout the country and quite common in Michigan as the trains stopped in numerous small towns and villages, many have been demolished as they no longer fulfill the purpose for which they were built. This building maintains much of its original integrity of materials and design. When it was renovated to be adaptively reused as the Evart City Hall, the conversion was completed with care and respect for the history represented.

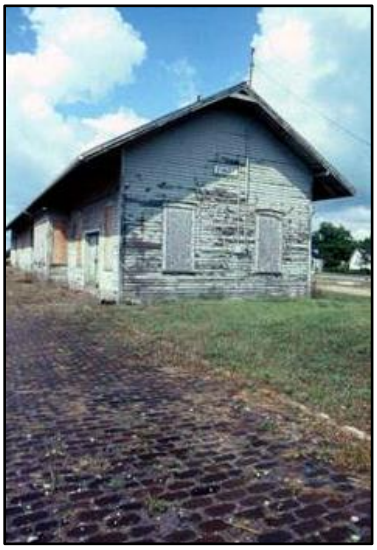


Photo taken just prior to renovation

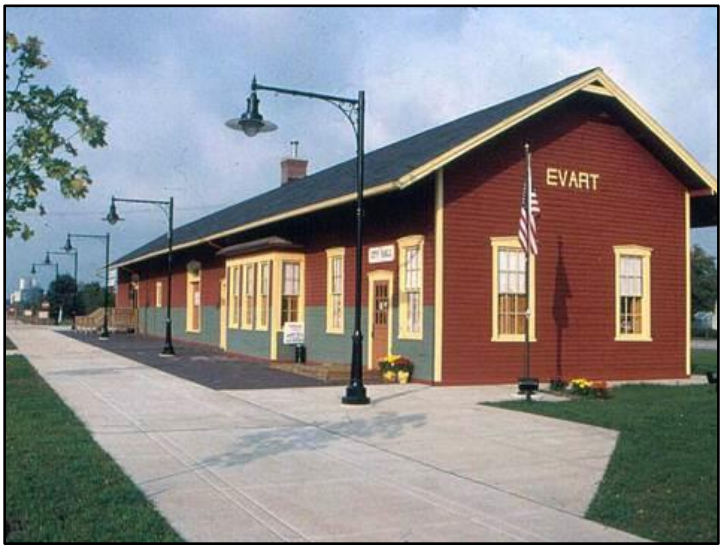


Photo taken just after renovation

The building is in remarkably good condition considering it was renovated more than 25 years ago. Most of the architectural materials are historic, although not necessarily all original. The restoration work that occurred and the adaptive reuse planning took great care not to destroy historic material. At this time, city staff has been working at the airport complex for about a year since mold was discovered in the basement of the depot. A condenser line leaked, went unnoticed for some time, causing a mold issue. Staff was relocated, the building thoroughly cleaned and mitigated of mold and is now ready to be reoccupied by the staff of city hall. However, energy efficiency is an issue and they would like to address that while they are in a temporary location and prior to moving back into the building.

The depot was constructed in 1872 for the Flint and Pere Marquette Railroad. Major updates were made in 1900 that may have included the projecting bay on the south façade. It is believed that the last train pulled away from the depot in 1989**,** pulling up the tracks behind it as it traveled. The building remained empty until the city took possession in the early 1990's. At that time, Federal grant money was used for a major restoration/renovation and the building was reopened as Evart City Hall. Minimal insulation was added at that time. A new forced air HVAC system was added to the building, but that is more than 25 years old and not as efficient as current heating and cooling methods.

Photo taken late in 20th century

Photo taken late in 20th century

The east end of the building that had been the depot waiting room and station master's office were renovated into offices for city hall. The freight and luggage end of the building was renovated into a Community Room and Rails to Trails lobby with restrooms. The existing interior walls of the depot were reconfigured, saving the interior faces of the perimeter walls where possible and adding new walls to provide more offices, a Community Room and public lobby with restrooms for those using the Rails to Trails system adjacent to the building. The lobby was designed to be closed off from the remainder of the building so that it could be accessible after hours. On the exterior of the building, a new roof was installed in 2018. Based on early photos, the wood siding does not appear to be original, but may date to the renovations made in 1900. A fiber cement siding was used as replacement siding on the wall facing east sometime in the recent past.

Major Issues Identified

The city reports that the expenses to heat and cool this building make it impractical for them to move their city offices back into this building without exploring potential energy conservation methods. The heating and cooling system hasn't been updated since the building was renovated 25 years ago. The insulation requirements were less at that time as well, so the building is very poorly insulated. Air infiltration is a concern as the siding is deteriorating and paint is not

protecting the wood. The fiber cement siding used on the east façade is not wearing well and should be reevaluated. Historic windows are showing signs of deterioration.

Staff reports that a redesign of the interior spaces may be necessary to accommodate staff and activities desired in this building. It may be advantageous for the Council Chambers to remain at the airport location so that space in the depot could be reassigned more efficiently.

Recommendations for Treatment and Use

All changes to the building should have the least impact possible on its historic materials and design. If the interior spaces need to be redesigned, that should occur before any other changes as they will all affect one another. Once that is completed, the most significant change to the building that will increase its energy efficiency will be an updated HVAC system. Additional insulation should be added wherever feasible and appropriate. Siding and windows should be repaired and refinished. Interior storm windows installed where applicable. Air infiltration and loss must be controlled.

Part 1 Existing Conditions

Names and Locational Data

The historical name of the property is the Evart Depot and the common name is the Evart City Hall. The building is located on East Railroad Avenue between South Main Street and South Pine Street in the city of Evart, Michigan. This building is not on the State or National Register of Historic Places. The Depot was considered significant in the area of transportation and granted the Intermodal Surface Transportation Efficiency Act (ISTEA) grant in the mid-1990's for a major renovation.

Proposed Use

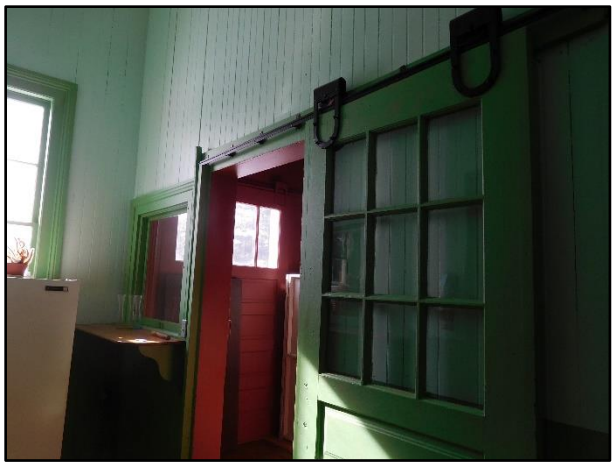
City administrators would like to make repairs and renovations to the Evart Depot so that it can again be used as City Hall. They would like to consider having a small display about the history of the depot and the town in the area where the public restrooms are located for use by the trail users.

Overall Architectural Description

The depot has wood lap siding with modest pedimented hood trim and detailing at windows and doors. Window and door casings are simple but significant in that they are the only detailing on the building. The roof is asphalt shingled with exposed rafter tails at the eaves. Detailing and trim on the building's interior is also simple and modest. Wood wainscot, wood floors and wood door and window casings are the most dominate features. Original exposed wood beams are prominent in the Community Room.

Office area

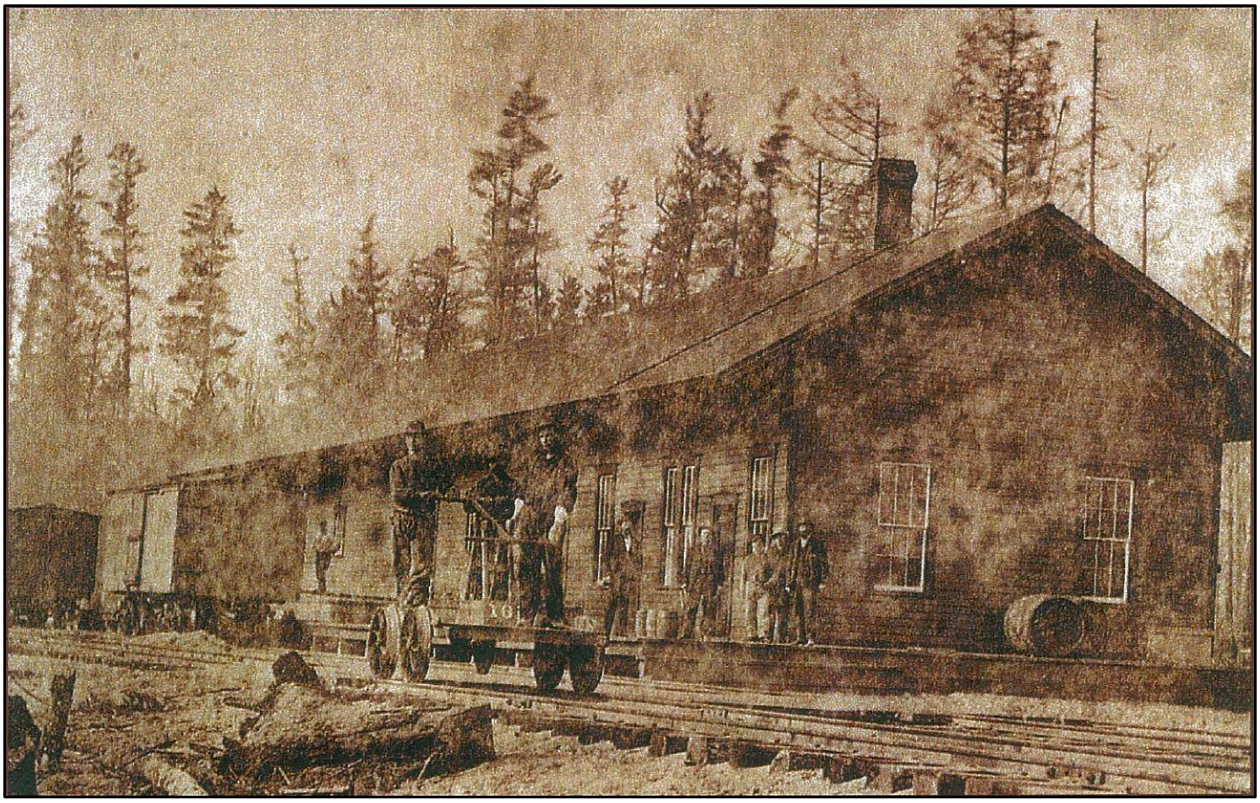
Office area



Sliding door in office

Community Room

Comparing old photographs of the depot, it appears that the projecting bay along the south façade that was to become the station master's office was probably added during the 1900 renovations. Photos prior to that also show that some of the windows may have been altered slightly and that the narrow face clapboard siding was altered. The newer siding has a slightly wider faced clapboard on the upper two-thirds to three-quarters of the walls and a wide shiplap siding on the lower portion of the walls. Paint is pealing extensively at all the siding.



Earliest photo taken soon after depot was built

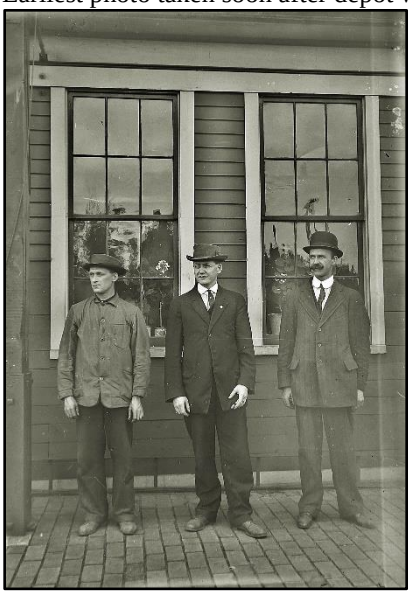


Photo taken after 1900 renovation

Photo taken after 1900 renovation

Because of the 1990's renovation, the ceilings and the walls are a combination of lath and plaster and studs and gypsum board. Prior to that renovation, at some locations at the west (freight and luggage) end of the building, there were no interior plaster finished walls, just wood shiplap siding on the lower portion of the interior walls and exposed framing and exterior siding above. In other areas the walls were finished with plaster and in good condition. Some of the walls in the original passenger area at the east end of the building have original wood floors, wainscot, and trim. New walls on the interior were installed as temporary walls so that if removed, they would not damage original trim or wainscot. In some areas in the Community Room, Plexiglas has been placed over the interior face of the wood walls as a method of preserving the original.

Temporary wall at front office

Wall preserved behind Plexiglas

Very little insulation was added at the time of the renovation. None was added to enclosed walls in the waiting and office area. This was because they didn't want to destroy the plaster by adding it from the interior and the insulation requirements to meet the energy code at the time were significantly less than they are currently. Where perimeter walls received new interior gypsum board faces, batt insulation was specified to be installed in wall cavities and covered with the gypsum board. This was at the new restrooms and the upper portion of the walls in the Community Room. Batt insulation to achieve an R38 was also specified to be used above the ceiling in the attic over the restrooms and the entire office area that was located in the original waiting area and station master's office. Batt insulation was specified to be added at the rafters to achieve a R19. The entire Community Room is finished at the rafters with a wood ceiling that runs between exposed beams.

It is thought that some new wood windows were custom made at the time to match existing with mullions and muntins. The only windows with storm windows are at the bay of the former station master's office. Some of the original windows still exist at the back and have had Plexiglas installed over them on the interior to protect them from damage and to function as an interior storm window. They do not have exterior storm windows. The glass transoms at the west end of the building, at the trailway room and restroom are original. Exterior doors are new wood doors, but original sliding track doors are still preserved in place on the interior. The basement window well has a single pane wood window with a metal grille installed on the interior for security. There was not a storm window in place.

Early storm windows at bay

Sliding door and original transom

There is a small basement area under the mid-section of the depot with crawl space on either end. The basement houses the engineering systems. There is a plastic vapor barrier spread on the dirt floor of the crawl spaces that also comes up the inside face of the foundation walls. This is meant to control dampness. There is no insulation on the underside of the floor, in the spaces between floor joists. Ductwork is wrapped in insulation. The foundation walls are block and stone and have no insulation.

New mechanical and electrical systems were installed at the time of the renovation, including a forced air furnace and air conditioning system. A condensate hose leaked, causing the mold issue discussed earlier in this report, but that has been cleaned and the leak repaired. The electrical system is updated and in good condition. New light fixtures were added that are sensitive to the history of the depot. The building needs a good data system that is sympathetic and compatible with its history.

Fiber cement siding was installed on the east gable end of the building in the early 2000s. This is pulling apart at the vertical joints and causing gaps between clapboards at those locations. A steel replacement door has been added on the north façade at the east end. It sits behind a storm door with the traditional wood frame trim and hood to match the other windows and doors.

A new roof was installed in 2018 but it didn't appear to be leaking prior to that installation. A few fascia boards and soffit boards were replaced at the same time due to deterioration. Where soffit boards were replaced, it appears they were replaced with plywood rather than trying to match the historic tongue and groove style of existing boards. The attic area is thought to be dry since no water damage has appeared on the interior of the building. Roof vents were added at the roof, approximately ½ way between the eave and the ridge.

Conditions Observed

HVAC System – The existing gas heating and cooling system is inefficient with age and wear. This inefficiency contributes greatly to the expense of operating the building.

Insulation – There is a general lack of insulation at walls, ceilings, attic and foundation area of the building. This makes the building very energy inefficient. Adding these is not going to be easy because it is desirable to preserve as much of the original building materials as possible. The amount, locations and type of insulation that is existing was not field verified. Amounts specified

on previous drawings are noted in this report, but it is unknown if that is what was actually installed or still exists.

Siding and Paint – Some of the wood siding is in very poor condition and is breaking away or cracking. The vertical joints of the fiber cement board siding are opening up. Both of these situations will allow water behind the siding and will accelerate deterioration of the siding and the wall structure behind. The condition of the siding could be contributing to the energy inefficiency. Paint is peeling significantly on the exterior siding, particularly on the south façade. Some peeling is typical after 7-10 years, depending on the preparations made and paint used.

Fiber Cement siding


Peeling paint

Windows – Original wood windows are showing some deterioration in their structural members. There is also deterioration at the glazing compound. Some of the windows have interior Plexiglas panels in place instead of storm windows. This may be accelerating the deterioration. The condition of the windows contributes to the energy inefficiency.

Part 2 Treatment and Work Recommendations

Historic Preservation Objectives

Absolutely the most important technique for preserving a historic building is that the building be brought back to daily use and operation. That is the only practical way to really save a building and fend off deterioration.

Since there is a significant amount of integrity in the location and quantity of historic materials still on this building, it is important to retain as much of this integrity while preparing the building for a more energy efficient future. It is necessary to minimize the maintenance requirements and minimize the negative impact that alterations could have on the historic features that still exist. It is also important to preserve the building as a whole, reflecting its importance as a structure in the history of the development of the community and its contributions to the railroad industry and development in northern Michigan. These three objectives are the basis for the recommendations that follow.

Work Recommendations and Alternatives

Before undertaking energy improvements to the building, it's recommended to have an energy audit by a professional. Quite often, your local utility company can do a simple audit at no cost. A more thorough audit can be provided by a professional energy auditor but starting with the free service is advised. If an independent auditor is hired, make sure they are truly independent and not someone who is selling a product. In either case, the auditor typically does not take into account that the building is historic and that the historic materials should not be significantly altered. This needs to be made clear prior to the audit, so you aren't offered a list of solutions that would be unacceptable because of their invasive or damaging nature.

When making the energy upgrades, it's important to understand the initial costs of the materials and equipment that will be added, but it's also important to factor in their estimated energy savings. By calculating how long it will take to pay off the upgrades with savings in energy costs, you can determine if the investment is worthwhile. For example, if it takes 50 years to save enough money on energy efficient windows that are only warrantied for 20 years, that would not be a worthwhile investment. But, there are some very inexpensive things, like reducing air infiltration around existing windows that might be an excellent investment. This would also protect the historic character that would be lost if the windows were replaced. Other major impact items include reducing air infiltration throughout, adding insulation where it has the least impact on historic fabric but the most impact on energy efficiency, and updating heating and cooling systems to a more energy efficient system.

HVAC System – A new, high efficiency heating and cooling system should replace the existing gas furnace. The existing system is estimated to be 25+ years old. The new system should continue to include air conditioning as a way to regulate humidity and provide human comfort to daily occupants. Existing ductwork should be cleaned and employed with the new system if efficient and effective. Seal and insulate all ductwork and hot water lines, especially in unconditioned spaces. Thermostats should be replaced with easy to use programmable thermostats that set the heating and cooling to agreed-upon standards to control major fluctuations in temperature and humidity control. Automatic set points for summer and winter use would make these thermostats self-regulating most of the time. Increasing air exchanges may be required if current air infiltration is properly controlled.

A professional engineer should be consulted for the best type of mechanical system for this particular historic building and this particular use. Consider a geo thermal heat pump system for long-term efficiency and cost savings. This could be ground or water sourced depending on whether there is a water source nearby. It may be possible to bore on unpaved portions of the site at a more reasonable expense than under existing paved areas. This system can be very efficient and cost effective to operate, but the initial cost of design and installation could be prohibitive. There may also be limitations when heating during Michigan's coldest days, potentially requiring a back-up heat system to help provide the necessary heat. Those issues and the pay-back for this type of system should be seriously considered.

Any new equipment, such as a condenser for the air conditioner if needed, should be installed with minimal impact on the building and should be as energy efficient as possible. This should be hidden with landscaping and located so it is not incompatible with the historic theme of the site. It should also be easy to service, maintain and upgrade in the future if necessary. Noise produced

should be considered for both heating and cooling equipment so that they do not detract from the history of the building.

Provide a new, energy efficient hot water heater if the existing is beyond its useful life. If it's located in an unconditioned space, make sure it's insulated. A high efficiency tankless water heater will heat water on demand. A point of use water heater should also be considered. Both of these options are something that could be very efficient in an office setting where hot water is seldom needed. Maintenance manuals should remain readily accessible and a maintenance schedule should be developed for changing filters, vents, condensate pans, etc.

Consider adding simple motion detectors for lights, especially in seldom used rooms. It was noted that some of the light fixtures have been re-lamped with compact fluorescent lamps, but not all. Replacing the traditional incandescent lamps with compact fluorescent lamps or, if appropriate for the fixture, LED lamps can provide an energy cost savings. If the large Community Room is going to remain as a Community Room and it is used infrequently, consider zoning it so that it will have a separate thermostat that can be set at minimum heating and cooling temperatures when not in use.

For the most flexible climate control system, consider making windows operable. If new windows are installed they should be operable, be insulated and have a low e coating on the least visible surface of the glass. If existing windows are able to be repaired, making them operable should be considered. Repair or install new sash cords and weights as necessary.

Insulation – The amount, locations and type of insulation that is existing was not verified. This should be verified before creating a plan to add insulation. Ideally, this would be verified in an energy audit. Adding this is not going to be easy because it is desirable to preserve as much of the original building materials as possible. Typically, you'd expect to find insulation in the roof, the walls, and under the floor.

To be most effective, the issue of air infiltration should be addressed with as much concern as the location of insulation. A significant amount of treated air can be lost through leakage. The same infiltration areas can make the building cold, drafty and uncomfortable during the winter months and cause the air conditioner to work overtime in the summer. The tops and bottoms of the exterior walls (rim joists/sill plates) and any chases should be sealed or "draft-proofed." The intersection where the walls meet the roof rafters should be sealed to prevent air infiltration. A spray foam sealant could be used in basement and attic where less visible. Seal cracks and joints at the base of walls and around doors, windows, recessed light fixtures (from above), seal the intersection of the wall materials and the ceiling materials. Seal and/or insulate around outlets, switches, and any other wall or ceiling penetrations. Use a clear, flexible sealant such as elastomeric polyurethane. Weather stripping should be added at doors and windows if it doesn't already exist. On the exterior, use exterior caulk (clear) to seal the intersection of sidings and doors or windows. Do not caulk the underside of clapboards or below the window – this allows moisture to escape when necessary. Seal all connections and adequately insulate ductwork, especially in unconditioned spaces like crawlspaces or attics.

On the depot, there are two different roof conditions. One is a gabled attic above the ceiling in the front half, over the office area, and at the rear of the building, at the toilet rooms. There may be a layer of insulation on top of the ceiling joists. The other roof condition is the tall ceiling space in the Community Room with a finished wood ceiling attached directly to roof rafters. There may

be a layer of insulation between the ceiling and the roof deck. In both cases, there are roof vents provided part way up the pitched sides of the roof. These vents need to be kept clear on the inside of the roof for good air circulation in both the attic and rafter locations.


Ceiling in office


Ceiling in Community Room

Blown-in cellulose insulation is recommended for use in rafter areas, but baffles must be used between the roof rafters where the ceiling joists meet the rafters if this area allows for venting or at the roof vents to allow for free air movement for ventilation of the enclosed rafter space. Batt or rigid foam panels could also be used in this area if the space between the rafters were accessible. Spray foam insulation is not recommended between rafters because it doesn't allow for air movement and may adhere permanently to the historic materials.

In the attic space, it is recommended to add multiple layers of unfaced batt insulation. Each layer should run perpendicular to the prior layer. They should stack high enough to run above the ceiling joists, remembering to keep the vent areas clear and allowing for air circulation in the attic space. Insulated the upper side of the attic door. Achieving an R80 in this area of the building would be desirable.

Adding insulation to the existing walls is also going to be a challenge. It wasn't added in the past because they didn't want to damage the plaster or the clapboards. It was installed only where the gypsum board walls were installed. This is presumed to be at the restrooms and rear lobby adjacent to the restrooms. At this time, it seems logical to temporarily remove an upper row of clapboards around the perimeter of the building (wherever insulation doesn't already exist). Through that open access, blow in dense packed cellulose insulation in the wall cavities. Clapboards may be temporarily removed under windows to add insulation in the same manner there. When insulation is in place, reinstall or replace the clapboards to match the existing. This method is preferred to drilling holes in the walls that will always remain visible.

Railside – west and south facades


North façade

Cellulose insulation should be labeled boric acid fire retardant only or "borate only." Do not use cellulose insulation treated with sulfates. All walls where insulation is added should be refinished on the interior with an impermeable paint layer that acts like a vapor barrier. Two layers of oil base paint or one layer of impermeable latex paint can create an acceptable vapor barrier.

More thought may need to be employed in the Community Room at the exposed wood walls. If insulation is added from the exterior, will it be visible from the interior? This wall wouldn't be painted, so how would it achieve a vapor barrier? Would the Plexiglas that protects the wood finish act as a vapor barrier?

In the basement and crawlspace areas no insulation was noted between the floor joists in either location. It appeared that a vapor barrier is in place in the crawl space on the west side of the building. It should be verified that a vapor barrier has also been laid on the exposed ground at the unfinished crawl space on the east side of the building. These vapor barriers are vital to keep excess moisture out of the building. No insulation was added at the floor nor at the interior of the basement walls. It is assumed none was added to the exterior foundation walls.

Sealing between the foundation and the wood framing of the walls and floors would help control air infiltration from the unfinished basement to the finished first floor. Spray foam or batt insulation may be installed at the rim joist between the floor joists and above the top of the masonry foundation wall only. Spray foam insulation should not be installed on the masonry walls or on

the underside of the floor deck. Rigid foam insulation could be added to the interior face of the foundation walls. This may be particularly effective in the crawlspaces where it wouldn't interfere with storage and mechanical/electrical systems in the basement. Seal all the joints between rigid insulation panels.

Siding and Paint – The existing wood siding is historic, although it is not original. The exposed face of the clapboards is narrower in the earliest photos and the entire exterior wall is clapboard. In later photos, the clapboards are wider and the lowest one quarter to one third of the walls is shiplap wood siding. Even though not original, the siding on the building is thought to have been added when exterior changes were made to the building in 1900.

There are two possible solutions for this section of the work. Ideally it would be best to preserve the historic siding, make repairs and refinish the wood. However, if the siding is too dry and brittle, it may be acceptable to remove it all and replace it with new wood clapboard siding, with a narrow profile and trim to match the original siding, primed and painted. In this scenario, it might be possible to preserve the unique wood surrounds at windows and doors.

On the east wall where wood clapboards were replaced with fiber cement clapboard siding, the siding is pulling apart at the joints. It is quite brittle and over time does not hold up well in wet or freeze/thaw conditions. Replacement with wood clapboards should be considered.

The wood siding is cracking through and deteriorating. Preserving this siding will require a significant amount of physical labor. The paint is alligatored and peeling extensively showing bare wood in some locations. It's unknown whether a vapor barrier was used when some of these walls were insulated 25 years ago. If it wasn't, that could have accelerated the deterioration of the paint and siding. Before stripping begins, the wood should be inspected for rot and cracks. Mark sections for repair or replacement. Anything that needs to be replaced doesn't need to be stripped. The Michigan Historic Preservation Network Lead Guidelines should be followed.

For the best paint job, it is vital to have good surface preparation. Existing paint should be removed wherever there are signs of failure. Siding and trim should be scraped, sanded, re-primed, and painted. Striping can be done with heat guns and scrappers if very tightly controlled for fire safety. Scrappers should have rounded edges rather than sharp edges so they don't damage the wood. Don't use heat guns near windows. Chemical strippers are often best in areas where it's difficult to use a heat gun and scrapper. Wood should only be repainted after it's been given a chance to dry properly.

Deteriorated wood must be replaced with new, sound wood. Siding repairs should be made with primed redwood or cedar as both are more durable than pine. Any new siding or trim pieces should be back painted prior to installation. While working, protect the wooden surfaces while repairs are made. Finish with two prime coats and two top coats of paint, with sanding between prime coats If the wood is excessively dry, consider priming with an oil alkyd primer cut by 20% with mineral spirits. Oil primer is used for its ability to bond to wood and the mineral spirits will increase the depth of paint penetration. This will rejuvenate the dried wood and give the subsequent coats a good surface for bonding. Two finish coats of acrylic latex paint provide excellent color stability, good durability and breathability. With a compatible oil alkyd primer, it also has good flexibility to handle expansion and contraction with Michigan's temperature extremes.

At the same time as the siding is being repaired, it is suggested that the plywood repairs to the soffit and fascia be removed and properly repaired with wood to match the existing, original treatment.

Windows – Ideally, existing historic windows can be repaired and reused without the need to replace them. The amount of deterioration appeared to be minimal. The Plexiglas panels should be removed. Windows need to be reglazed, weather stripped and have a few deteriorated sill members repaired or replaced. Refinish the wood with a penetrating oil alkyd primer to rejuvenate the dried wood.

An interior storm window should be added that is custom fit for the opening. This will help cut down on air infiltration, improving comfort and decreasing drafts. They need to be tight fitting with a sealing gasket around the glass. Preferably, they should not have meeting rails, but if they do, they shouldn't conflict with the meeting rails of the historic windows. They should align with those of the historic window. I suggest a standard interior storm window made by Indow Windows, (503) 673-6922, https://indowwindows.com. They are reasonably priced, lightweight acrylic, easily installed without any additional hardware, and custom sized. Existing storm windows at the former station master's office can be kept and reinstalled in the winter if they are in good shape. A storm window should be provided for the basement window as well. This could be an interior storm or an exterior storm, depending on if the metal grille will remain in place. If a glass storm window is preferred throughout, consider a clear, low-e glass.

The interior window must be the tighter fitting window of the two, the historic window and the storm window. This will decrease the risk for condensation between the windows that occurs in cold climates with indoor heating. If condensation collects on the historic window it will cause deterioration. Appropriate gaskets are required to avoid condensation on the inside face of the historic window. Interior storms removed in the summer months will help avoid some of the negative effects of moisture build-up between the windows.

Previous replacement windows should be carefully examined to make sure their seals are still intact and that they are not deteriorating in any other way. Make any repairs necessary for them to be fully operable. There may be some energy savings by having operable windows in the spring and fall rather than running air conditioning earlier or later than necessary. Consider adding insulated shades at windows to control heat gain in the summer and heat loss in the winter.

If any original windows are to be replaced, considering the cost of the new window, its warranty/lifespan, and the loss of the original windows, this may not be a worthwhile investment, unless the window just can not be repaired. If new windows are selected, they should be insulated with a low-e coating on the least visible surface. Simulated divided lites should be considered for cost savings. Windows should be properly weather stripped, be operable (counter balance hardware isn't necessary, but no plastic elements should be used or be visible at any time) should have locking hardware and should not be clad wood. They should be primed and painted prior to installation.

An options for replacement windows is Parrett Windows & Doors; www.parrettwindows.com (800-541-9527). Other manufacturers may be available who can produce appropriate windows. Those options should be explored further when it is time to contract for replacement windows. If using factory manufactured windows, the carpenter hired to install the windows is just as important

as the manufacturer of the window. The manufacturer should be able to provide recommendations for local installers.

Existing doors should be examined for air infiltration. Provide weather stripping or make repairs to existing weather stripping if necessary. Storm doors are not typically considered for this type of a building and should be avoided.

Prioritize Work

Any redesign of the interior layout of the space should be considered before work begins. This could have an impact on the HVAC system balancing. It is possible that the council will continue to meet at the airport and that space could be redesigned with cubicles for city staff use. Some of the interior walls that were added previously could be removed, new walls installed, or current walls finished off, in particular at reception. If new walls are to be installed, they should be fit around existing, original trim and detailing. They should not bisect a window or doorway. Existing doors, including sliding doors and their overhead tracks, should be preserved. As much original material should be preserved as possible and practical.

Once any redesign of the space is completed, top priority should be to update the HVAC system and any plumbing and electrical items that are drawing excessive energy. If any of the current mechanical systems are more than 15 years old, they are not as energy efficient as they could be. With a redesign of the space, it is also the best time to design a data system that will work with current office needs. This should be installed as carefully as possible so as to be as invisible as possible. Consider WIFI systems with router boosters as necessary rather than hard wiring and exposing wire or damaging existing historic floors and walls.

The next biggest energy payback will be install insulation as described above and to button up the walls, ceilings, and floors. Then ductwork, plumbing penetrations, doors and then windows in that order.

Repair of siding and exterior wood should be the next priority. The air infiltration techniques for walls above may have to wait until the exterior siding work is complete.

Repair windows and install interior storms. The air infiltration techniques around windows may also have to wait until this work is complete.

For future funding, consider the David Evans Grant through MHPN and the Moving Ahead for Progress in the 21st Century Act – MAP-21 that replaced the ISTEA program. Check with MDOT to see if this Act still funds Depot conversions and renovations to same. There may be other funding options and sources available through SHPO and/or MHPN. These should be explored for feasibility with this project.