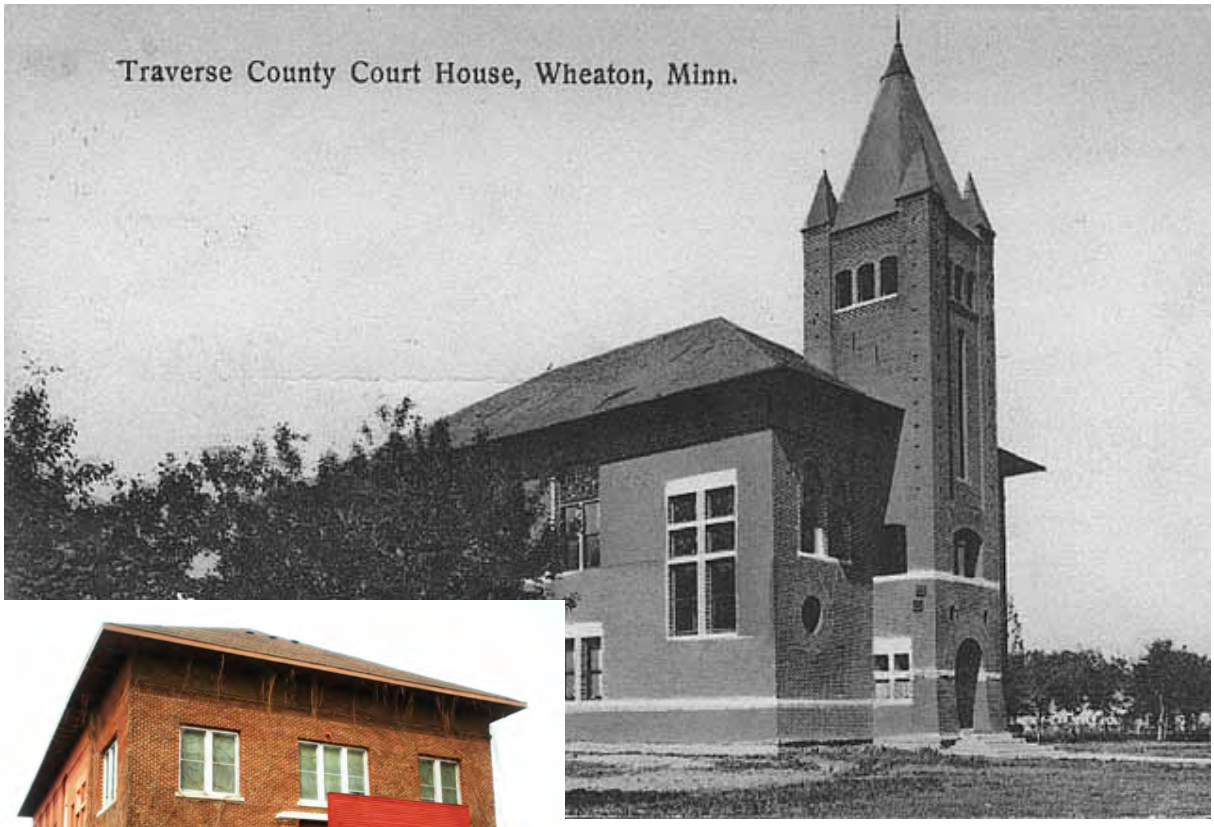
Traverse County Courthouse

Building Evaluation - Space Needs Study

16 July 2012



CLIENT
Traverse County
702 Second Avenue North
Wheaton, MN 56296

COLLABORATIVE DesignGroup, inc.
100 PORTLAND AVENUE SOUTH, SUITE 100
MINNEAPOLIS, MN 55401
PHONE: 612.332.3654

STEEN ENGINEERING, INC.
5430 DOUGLAS DRIVE NORTH
CRYSTAL, MN 55429
PHONE: 763-235-4770

TABLE OF CONTENTS

STUDY DESIGN TEAM

TRAVERSE COUNTY
Janet Raguse, Traverse County Coordinator

ORB MANAGEMENT, INC.
Project Management
Wade Cole Sr. Project Manager

COLLABORATIVE DESIGN GROUP, INC.
Architecture / Preservation / Structural Engineering / Building Forensics

Michael Jordan, AIA, Principal in Charge/Project Manager
Becky Sandbulte, LEED AP, IIDA, Programming and Interior Design
Craig Milkert, PE, LEED AP Structural Engineer
Philip Waugh, LEED® AP, Building Investigation, Historic Preservation

STEEN ENGINEERING, INC.
Mechanical and Electrical Engineering

Mark Brengman, PE, Mechanical Engineer
Steve Youngs, PE, Electrical Engineer

ONE: INTRODUCTION

STUDY GOALS

The citizens of Traverse County and their Board of Commissioners have a daunting series of decisions to confront regarding their existing County Courthouse and its adequacy to continue to provide county services and the challenges of its ongoing maintenance and operations issues.
As a result of this study, the county commissioners and staff will be able to make a comparison between the existing conditions and appropriate remodeling, renovation or a new construction option. The study will document a range of options and a recommendation as to the best solution to address the county's current and future needs from a facility standpoint.

The courthouse has continually served Traverse County since its initial construction, but has undergone several additions, remodelings and renovations. These include removal of the tower and replacement with a 20 foot addition to the south in 1928; the addition of a county jail and sheriffs building in 1974; extensive second floor court facility remodeling and the installation of an HVAC systems in 1980s and 90s and the addition of an elevator and a fire escape to the second floor level in 1994. A Courthouse Annex building was located to the west and a County Law Enforcement Center and Jail was constructed to the east.
The exterior of the building is deteriorated and in need of major repairs, while the interior finishes on the first floor of the courthouse date from the 1950s. The building interior is of combustible wood framed construction and it does not have fire alarm or fire sprinkler protection. With the exception of the remaining 1892 façade, very few exterior or interior historic elements remain.

The purpose of this project study is divides into three tasks:

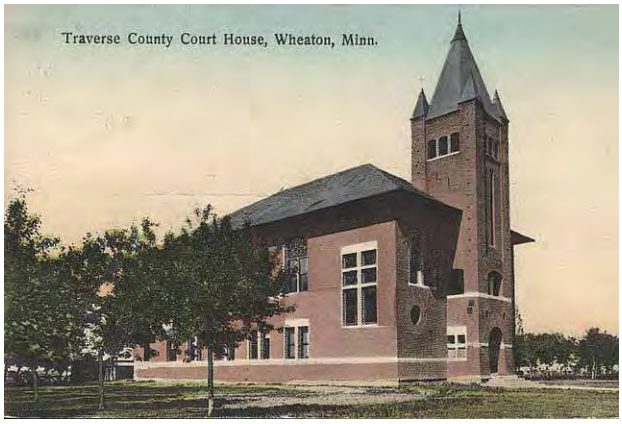
1. Conduct an assessment of the building including, exterior envelop condition, mechanical and electrical condition and performance, interior and code related issues and investigate and report on deficiencies and concerns throughout the building.
2. Provide an understanding of space needs and an assessment of the county services and departmental programming in order to develop an understanding of the current space shortcomings and future needs.
3. Provide recommendations to the County Commissioners and Staff for improvements including a list of three options and relative probable construction cost estimates for the proposed improvements.

The goal is to present the county with viable options so that the commissioners can make an informed decision on the future of their courthouse. The economical implementation of proposed remodeling, renovations or complete replacement will be decided by the county administration based on the building condition, ongoing maintenance issues, energy costs and the current and future space needs of the county weighed against the costs of remodeling, renovation or new construction.

TWO: EXISTING COURTHOUSE FACILITY ASSESSMENT

HISTORICAL BACKGROUND

When Traverse County was organized in 1881, the county seat was located in the village of Browns Valley. In 1889, a battle between Wheaton and Browns Valley began over the location of the county seat on the proposed railroad line. Two years later, 85 men and 25 sleighs from Wheaton moved the courthouse records to the town of Wheaton.



In 1891, the temporary lumber yard location of the courthouse was replaced with the new courthouse built at a cost of $12,000. The Courthouse was designed by the Minneapolis architect Harvey W. Jones and constructed by Alfred A. Setterlund of Wheaton. The walls are built of red brick trimmed with Mankato stone above a split fieldstone foundation. The building's south façade featured a high central tower with an open porch.

By 1920 the tower had settled about 4 inches away from the building, so the county demolished the tower and constructed a 20 by 50 foot two story addition in its place. The addition was constructed with a brown brick and trimmed with limestone that does not match the existing courthouse exterior.

In 1974, the courthouse was rewired and air conditioners and light fixtures were installed. Combination windows were also added. Another addition, including a sheriffs department and jail was completed in November of 1974. Such remodelings have doubled the building's size since its original construction.

SITE CONTEXT

The Courthouse is situated at the north side of Wheaton, MN facing Second Avenue North and forms the center of a county government services campus. The building opens on the south side with the east side containing the County Law Enforcement Center building and Veteran's Memorial. To the west the Courthouse Annex

Building attaches to the courthouse with an accessible entry and elevator lobby. To the north of the block the County Public Works and Highway Department buildings complete the government center campus area. Parking lots flank the west and north sides of the site. There is a service area containing garage on the north.

COURTHOUSE BUILDING

View of the south façade, wood portico and annex entry

The main courthouse is two stories tall with a ground floor one half level above surrounding grade over a crawl space and a large attic under the hipped roof rafters. The main entry is accessed up a concrete staircase to an added wood portico on the south elevation. This floor can also be entered from the 1974 addition and via an elevator from the adjacent Courthouse Annex building vestibule link. This entrance access to ground floor level is ADA accessible as a result of the elevator addition that connects first and second floor to the grade level entry. On the east, an unenclosed fire escape stair exits to grade from the second floor courts area.

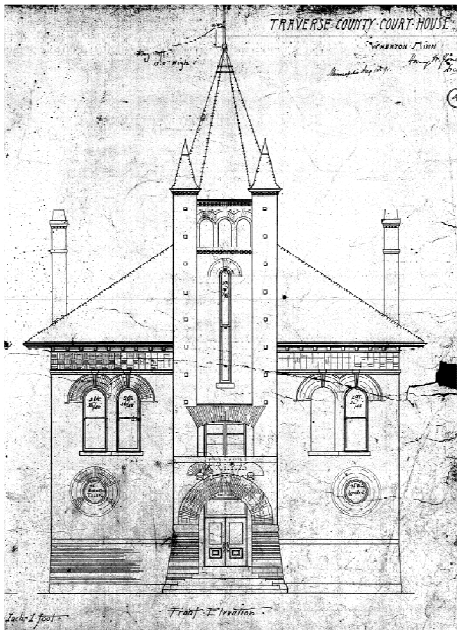
1974 ADDITION

The 1974 addition was originally constructed as a Law Enforcement Center housing the County Sheriff's Department and Jail. It is a two level masonry structure with precast plank upper floor that aligns with the floor of the original courthouse building. The aluminum windows and entries are single glazed and there are no entry vestibules. The roof slope east and west and has caused water damage to the existing courthouse masonry and electrical components. The lower level, former jail, is below the existing parking lot grade and is currently empty due to water infiltration and flooding. Mold remediation has taken place, but the floor remains unusable do to water problems. The interior mainly consists of concrete block partitions and currently houses county departments.

View of north side of 1974 addition and garage

ARCHIVAL REVIEW

A review of the archived drawings and other information provides insight into the building's previous condition and the changes those previous projects brought to the building. Existing drawings, documents and photographs were reviewed. The findings of this review are discussed in other sections of this Study. Significant alterations include:



Date	Content of Drawings or Scope of Improvements
1891	County Courthouse construction drawings for the original construction
1919	Removal of the existing tower and addition of a 20 x 50 foot addition and new entry
1939	Construction of an addition to the northeast side of the 1891 building.
1974	Addition of a two story Sheriff's Department with county jail in the lower level.
1985	Significant Alterations to the second floor court Administration and Courtroom
1986	Construction of fire escape stairs.
1990s	Construction of the Courthouse Annex building to the west.
1994	Handicapped accessibility upgrades and addition of the elevator.
2000	Mechanical improvements with high efficiency furnaces
2001	Replacement of the roof with asphalt shingle roofing.
200X	Removal of the 1939 Addition
200X	Construction of the Law Enforcement Center and Jail building to the east and subsequent abandoning of the existing jail.

SPACE PROGRAMMING NEEDS ASSESSMENT

EXISTING DEPARTMENTAL LOCATIONS

The Courthouse has housed various County departments and a variety of County court and government uses since its construction in 1892. Currently the Courthouse houses the following County Departments:

Lower Level: 1974 Addition

- Currently unoccupied due to water infiltration.

First Floor: Courthouse and 1974 Addition

- County Assessors Office
- County Auditor/Treasurer
- County Recorder Office
- Motor Vehicle Office
- Veteran Services/Solid Waste/Safety Officer
- County Extension Office
- County Coordinator
- Building and Grounds Maintenance

Second Floor: Courthouse

- County Courtroom
- Court Administration
- County Probation

Courthouse Annex:

- Traverse County Social Services
- Stevens-Traverse-Grant County Public Health
- County Attorney
- IT Technician
- Conference Room A - County Commission Board Room
- Conference Room B - Meeting room and employee break room

Law Enforcement Center:

- County Sheriff's Department
- County Jail.

EXISTING SQUARE FOOT AREAS

The following lists the net and gross square foot space in the building by floor. Since the masonry walls are thicker that normal construction, the area was measured from the inside face of the exterior wall. It should be noted that due to the ten foot wide central corridors, monumental stair, masonry wall thicknesses and other non-assignable spaces, the net assignable areas are also smaller than a typical building.

Location	Gross Area	Net Useable Area
Basement	2,100 SF (1974 Addition)	1,520 SF
1st Floor:	8,000 SF	5,300 SF
2nd Floor:	4,500 SF	3,780 SF
Attic:	4,500 SF (Unheated)	No assignable space, not in total
Total Space:	**14,600 SF**	**10,600 SF**

CURRENT OBSERVATIONS

The existing areas of the county offices spaces are for the most part well utilized. There are several significant shortcomings in the current conditions

The lack organization of the storage and access to county records for all departments is evident. Without security or a fire protection system, the records stored in the open are subject to vandalism or loss.

Lack organization and centralization of data and communications equipment is evident throughout the facility. There is a need for a centralized communications and data equipment room that would allow for organization of the systems and better security and environmental conditions for the equipment. Likewise better routing and access for cable management would provide for a neater work environment.

Access for county record books is still required

A centralized data room is needed

A shared break room would eliminate clutter

The need for a common employee break room separate from the office spaces is also evident from the numerous refrigerators, microwaves and coffee makers scattered throughout the office areas.

PLANNING PROCESS

The planning began in May 2012 to define the goals of the space needs. Meetings were held with key stakeholders to gather information on individual programs, staff concerns, including office sizes, benefits and disadvantages to the current facility and potential for growth. Through a series of interviews and site investigations, the departmental space needs for Traverse County were complied and evaluated against the existing operational conditions. A copy of the detailed programming information can be found in the appendix.

PROGRAM SPACE REQUIREMENTS

Currently the Traverse County Courthouse is occupied by various County departments and a variety of County court and government users. The departments are organized as follows:

First Floor:

- County Assessors Office
- County Auditor/Treasurer
- Motor Vehicle Office
- County Recorder Office
- Veteran Services/Solid Waste/Safety Officer
- County Extension Office
- County Coordinator
- Building and Grounds Maintenance

Second Floor:

- County Courtroom
- Court Administration
- County Probation

ASSESSOR

The Traverse County Assessor's Office is responsible for estimating the market value and determining the classification of all property for real estate tax purposes, as prescribed by Minnesota Statutes and the directives of the Commissioners of Revenue. The office determines which properties qualify for homestead, maintains assessment records, notifies taxpayers annually of their valuation and classification, and attends local and State Board of Equalization meetings.

Overall the current Assessor office works well. Some of the shortcomings include insufficient storage space for active files within the work area and the need for a barrier between the public and private space within the office. A barrier could be accomplished by adding a transaction surface at the workstation(s). They would also be open to having a shared copy / work room as well as a centralized break room.

AUDITOR/TREASURER OFFICE

The Auditor/Treasurer office is responsible for the administration of finances, elections, licensing and property taxes. The office provides tax administration for all taxing districts in Traverse County. These duties include the maintenance of names, addresses, legal descriptions for tax rolls, truth-in-taxation notice, calculation of property taxes, tax increment financing, tax forfeiture, special assessments and the settlement of tax dollars. The Auditor's Office administers the issuance of auctioneer, beer, and liquor licenses. The Auditor's Office also administers the County's centralized accounting system. This system controls all fiscal aspects of the County including paying bills, payroll, collecting revenues, financial statement preparation

and budget reporting. This office also administers the County functions of Federal, State and Local elections. This process involves registration of voters, candidate filings, ballot layout, electronic tabulation of ballots, absentee voting, and production of Election Day rosters, Election Day signature rosters, and election night results, abstracts, maintaining voter history and administering county recounts.

Currently the County Auditor/Treasurer suite has adequate space; however the overall layout is not designed in the most efficient means. This is mainly due to the original design of the building. The Auditor/Treasurer offices in the old vault space which is too large for a single office, therefore the office is married with storage space and is set away from staff members. The office suite also houses the server rack which is certainly not the most appropriate location for the server. They would also be open to having a shared copy / work room as well as a centralized break room.

MOTOR VEHICLE DEPARTMENT

The Auditor/Treasurer is the Deputy Registrar for the County and administers the Motor Vehicle Department. Motor vehicle transactions include license plates, tabs, vehicle transfers, new vehicle and out-of-state registrations, boat, snowmobile, all-terrain, motorcycle and trailer licensing. Driver's licensing includes driver's license renewals, name and address changes, identification cards and instruction permits.

The Motor Vehicle office space is one area that could use some reorganization to create a more efficient work flow and space for customers. It's important to note that the Motor Vehicle office does need a dedicated copy space within their suite.

RECORDER

The County Recorder is the custodian of all legal records pertaining to real estate, birth, death, marriage, notary public, Uniform Commercial Code (UCC) Central Notification System (CNS) and tax liens. This office also serves as a Passport Agent for the U. S. Department of State Passport Services. When acting as the Registrar of Titles, the Traverse County Recorder reviews each document before recording to determine if the document will cloud the title, similar to when an attorney examines an abstract for abstract property.

Currently the Records office is appropriately located within the building and has developed an efficient work flow for customers and staff. The office does have a need for secure file storage in fire safes and would benefit from having a shared break room in the building to create more space for file storage. The office also has a need for a dedicated copier/plotter. It's also important to note that within the Recorders office suite they share an office space with their Abstract consulting company. This space will remain as part of the program.

VETERANS SERVICE/SOLID WASTE

This office provides advice and assistance on a wide variety of issues facing veterans, such as admission to a United States Department of Veterans Affairs Medical Center, obtaining a copy of discharge records or assistance with other federal or state veteran's benefits.

In regard to solid waste management, the office designs and implements an integrated solid waste management system, following the State's laws and regulations and County directives, that is the most feasible, environmentally sound and institutionally acceptable, with least cost to the citizens of the County. The safety program for all County employees is also administered by this office.

The Veterans Service office space is currently undersized for their current needs. The need for a private office for the Veterans Service Officer would be ideal for private meetings with customers and staff. The use of small conference room(s) is also desired for onsite meetings and consultations with Veterans. The office is also lacking space for files and would be delighted to have a shared copy / work room.

EXTENSION OFFICE

The Extension office provides a wide-range of quality programs led by Extension staff and trained volunteers. 4-H is good for kids! This office also provides master gardener information, applicator license information and study group resources and materials Extension takes the latest research from the University labs into people's lives – where they live, work and play. We address issues that are important to Minnesota ... safe water ... farm profitability ... healthy food ... renewable energy ... main street business challenges ... limited family finances ... youth with too much time on their hands ... and the list goes on. We listen to and collaborate with individuals, organizations and communities in order to discover, develop and deliver research-based education and information that is relevant, practical and useful. Extension combines University Scholarship and research with local expertise and engages people, organizations and communities across Minnesota to build capacity create opportunities and solve problems. Extension is in all parts of the state, including urban, suburban and rural areas. Extension is a partnership between the University and state, federal and county governments to provide scientific knowledge and expertise to the public.

The current Extensions office is well suited for their needs.

COUNTY COORDINATOR

The County Coordinator's office provides central management for the County under the direction of the County Coordinator. The County Coordinator is responsible for:

- Preparation and implementation of the overall County Budget in conjunction with the Auditor/Treasurer
- The development and implementation of programs and policies adopted by the County Board
- Acting as Clerk to the Board of Commissioners, attending all Board meetings and preparing agendas and meeting minutes
- The coordination of activities among various departments and agencies to ensure the effectiveness of all County services
- Providing support to elected officials and Department Heads in administering the affairs of their departments
- Developing and coordinating special County projects, such as building projects
- Administering the County personnel system, administering and supporting human resources and management programs for all departments and acting as the County employee benefit administer, monitoring and managing all employee benefit programs

The current County Coordinator office is oversized for its program needs. The office also houses the County Board artifacts which is not an appropriate location for such items.

BUILDING AND GROUNDS

The County takes pride in maintaining its buildings and grounds through scheduled maintenance indoors and out. In addition, the County's various mechanical, heating, cooling, and electrical systems are monitored regularly to ensure continued operation. Based on programming meetings there is a need to provide an office and storage space for the building maintenance equipment and supplies. The garage area and the old jail addition currently serve as storage. The likely location for this function would be in the 1974 addition lower level, when remodeled.

COUNTY ATTORNEY

In each of Minnesota's 87 counties, a County Attorney is elected to handle numerous criminal and civil legal responsibilities for the County. The County Attorney is in Traverse County part-time approximately 4 days per week. The attorney also serves Browns Valley and Wheaton as City Attorney.

The County Attorney's office is currently located in the Courthouse Annex close to the social services and public health departments, where they do the most interacting. There is a need for one office and a storage room for case records.

COURT ADMINISTRATION AND COUNTY PROBATION OFFICES

Traverse county court administration is responsible for record keeping and case flow management for all the district court cases filed within the county. These cases include civil, family, probate, juvenile, criminal and conciliation court cases. There are no judges permanently chambered in Traverse County however the chambers are provided for when court is in session.

The second floor location for the court related functions is the most recently remodeled. The offices for the probation officers are located in the 1928 addition and are accessed through former vault areas. Small conference rooms would aid in arranging probation officer meetings. Reorganization of court records is also needed.

PROGRAM ASSESSMENT

Programmatically the size and function of the various departments would fit within the existing building footprint. However, this would only be accomplished if the basement was renovated to usable space. This would free up existing storage spaces on the first and second floors for programmable needs. Also, due to the construction of the current building with thick masonry walls and other non-assignable spaces, an entire interior renovation of the basement, first floor would free up non usable space. This would allow for several improvements within the Courthouse, which would provide a more modern, efficient and functional organization of current department space requirements. Such improvements include the potential to create a common lobby and waiting area where the public could be greeted and directed to the appropriate department for assistance. Departments could be reorganized to better serve the public and work more efficiently together.

Shared spaces such as an employee break room and central copy room would be designed to create a central gathering space for employee interaction; as well as a more resourceful and practical area for printing, collating and supply storage. The need for several small to medium sized shared conference rooms is also of high importance.

The Courtroom should be modified and upgraded to a more secure and functional arrangement to meet state court and building code requirements. Careful detail should be given to access and security and the adjacencies surrounding the Courtroom, such as the location of the jury room, law library and the court administration.

SPACE NEEDS PROGRAM SUMMARY

PROJECT SUMMARY				
Department Name		**Options 1 and 2**	**Option 3**	**Comments**
Assessor Office		604	550	
Auditor / Treasurer		1380	1190	Would like conference spaces
Recorder		844	858	
County Coordinator		411	373	
Court Administration		2015	2468	Would like conference spaces
Probation		280	448	
Extension Office		1060	1058	
IT Technician		144	414	Assumes the Server and LAN Room would be in the Courthouse
Veteran Services Solid Waste Safety Officer		403	678	Would like conference spaces
Shared Space			800	
Program Space Totals		**7,141**	**8,837**	
Basement Renovation Total		1,830		
Common Building Factor (65%)		4,642	5,744	
Building Totals		**13,613**	**14,581**	

BUILDING ENVELOPE ASSESSMENT

INTRODUCTION

The building assessment has two specific charges: first, to provide a condition survey of the of the historic courthouse building along with its addition and second to understand the impact of proposed improvements to the building. The assessment included visual observations and review with the buildings and grounds staff of repairs and maintenance made to the basement of the 1974 addition and other components of the buildings.

PREVIOUS STUDIES

A copy of a 2001 Courthouse Complex Study prepared by Hurst and Henrichs, Ltd. was provided. This study was reviewed and its recommendations compared to current existing conditions encountered in our observations. A copy of the study is attached to this report in the appendix. While this existing study thoroughly documented and reviewed the building's structural, architectural mechanical and electrical conditions, we have provided a limited review the courthouse building to further document any changes since 2001.
A summary of the still relevant key observations in the 2001 study is as follows:

1. Settlement issues with the fieldstone foundation caused by no concrete footing below the walls and a footing depth of only 3 feet below grade, well above the frost depth.
2. Metal tie rod supporting the north wall in the east west direction.
3. Unprotected wood framing construction of the interior bearing walls, floors, attic and roof framing.
4. Extensive reframing and support in the original attic rafters and roof framing.
5. Deteriorated metal trim and wood soffits pulling away from the exterior walls.
6. Continued settlement cracking at the exterior masonry walls due to foundation settlement.
7. Sagging of the 1974 addition roof and required roof replacement.
8. Basement water infiltration in the 1974 addition.
9. 1928 addition footings and floors are of concrete construction and in good condition
10. Unprotected wood floor structure and wall framing do not meet current codes.

Added attic roof framing support

Parking lot settlement at 1974 addition resulting in water damage

CURRENT OBSERVATIONS

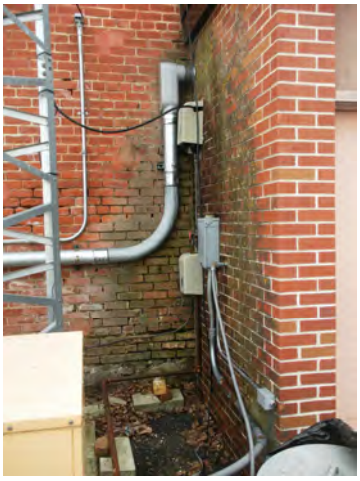
The building has two levels over a crawl space, plus an unheated attic mechanical space. The exterior is comprised mainly of a red pressed brick with limestone accent bands, lintels and sills. The existing masonry, windows, and architectural metal are all in mostly poor condition, with need for preventive maintenance, repair and/or replacement.

ROOF

Rusted metal soffit trim and gap

The existing roof is comprised of newer asphalt shingles over wood sheathing and wood rafter framing original to the building. The roofing was replaced in a recent project. The high roof is a relatively new steep pitched hipped roof, while the roof of the one story historic jail appears older. The roofing material is currently a three tab asphalt shingle. The roof of the 1974 addition could not be viewed from the ground, but was recommended for replacement in previous studies. The soffits are constructed of wood boards with galvanized sheet metal rafter trim. They are deteriorated and need repair or replacement. Limited observation of the attic space areas revealed no apparent current water seepage. There is no insulation in the rafter spaces; however insulation has been placed in the ceiling joists.

The interior sheathing did not appear to show significant water staining or other signs of infiltration and no roof leaks have been reported by county staff. The main roof replacement is likely not needed at the current time. The existing painted galvanized metal trim, appears to be in poor condition with evidence of rusting and gaps between the trim and the masonry.



Damaged brick and electrical conduits

Existing window openings

There are no existing gutters or downspouts and rainwater runoff flows from the roof to the parking lot on the north and west and to walks and landscape areas on the east southwest and south. Uncontrolled roof water from the 1974 addition has damaged the masonry and electrical equipment at several locations

WINDOWS

The existing windows were predominantly wood, one-over-one double-hung windows with arched tops on the second floor and square transom tops on first floor. Extruded aluminum replacement sashes have replaced the original wood windows and in other areas the existing windows have been replaced with painted plywood panels or masonry infill. The aluminum replacement windows

throughout the building appear to be in average to poor condition. However, the aluminum storm and screed screen units are not historic in appearance and as they are single glazed; they provide little additional energy performance. Plywood window closure panels have deteriorated and require repainting or replacement.

BRICK/STONE WALLS

The courthouse is comprised of red pressed brick with limestone accents banding, sills and lintels. The limestone trim occurs in several locations on the building: as a horizontal belt course that separates the crawl space from the first floor; in a flush trim band at the sill of the window openings and a stone band present as a lintel over the first and second floor window openings. The decorative limestone bands appear to be in overall average condition, with some deterioration occurring in select locations. The limestone sills are typically in average condition overall. Some of the sills have exhibited weathering of material. The limestone and brick has been covered with a cementitious coating and the north east corner covered with a glossy acrylic textured coating. The rounding of the edges of the brick suggests a possible sand blasting took placeprior to coating the masonry.

Cracking in masonry at the east elevation

SETTLEMENT AND CRACKING

There is cracking evident at a significant number of brick and stone joints on the east and west elevation of the 1891 Courthouse walls. The cracks in brick joints have been repaired previously, leading to the assumption that they are a continuing source of movement in the wall. Cracking of the brick joints at Courthouse seems to be more prevalent on the east and west portions of the walls near where the tower was removed and replaced with the 1920s addition. That addition was place on concrete footings and is not showing evidence of settlement problems. The existing courthouse however continues to settle due to deterioration of the stone footings, roof runoff and groundwater issues.

Black line on wall shows where parking grade has settled at old jail window

Settlement of the grade around the building, especially the 1974 addition has caused damage to the stone foundation and added to the water infiltration problems at the 1974 additions lower level.

MECHANICAL AND ELECTRICAL SYSTEMS EVALUATION

Evaluations of the Courthouse building's energy performance and related investigations of the existing Heating, Ventilating and Air Conditioning (HVAC) and electrical systems were performed. This review formed the basis for several alternative approaches to the updating or replacement of the heating and HVAC system equipment. The HVAC equipment is generally located in multiple small mechanical rooms and the unheated attic.

ELECTRICAL SYSTEM EVALUATION

Lighting

Both buildings contain multiple fixture types: recessed incandescent downlights (some retrofitted with fluorescent screw-in lamps), recessed 2x4 parabolic, recessed 2x2 parabolic, recessed 2x4 lensed, surface 2x4 lensed, surface 1x4 lensed and strip cove lighting. Fluorescent lamp types are a mixture of newer T8 and outdated T12. Exit fixtures also contain a mixture of incandescent, fluorescent and LED lamps.

Interior emergency egress lighting is provided by individual, self-contained fixtures in the 1974 Addition and by a Dual Lite central inverter system consisting of centrally located batteries connected to multiple incandescent spotlights located throughout the second floor of the Courthouse Building. The main floor of the Courthouse Building does not contain emergency egress light fixtures.

Exterior lighting is provided with a combination of building mounted wall packs and incandescent decorative fixtures. No emergency egress lighting is present at the exterior doors or at the exterior side stairway.

Main Service & Distribution

Electrical service is 600 amps, 120/240 volt, and three phase. The main electrical distribution panel seems to be in good condition and is manufactured by Westinghouse. This panel utilizes the "six disconnect rule" as allowed by Code and all six disconnects are in use. Distribution panelboards, manufactured by Square D, also appear to be in good condition although several require the addition of blank circuit breaker covers to hide the exposed panel buss.

An external, 20 kw, 120/240 volt, single phase, propane based emergency generator is located at the back of the Courthouse Building. It is dedicated specifically for backup of the abandoned 1974 dispatch area, the Courthouse Building telephone service and County servers. This Winco generator and automatic transfer switch have reached the end of their useful life.

Fire Alarm & Detection

The 1974 Addition is covered by a Simplex #4001 zoned fire alarm and detection system that is in good condition, although outdated. The elevator in the Courthouse Building is provided with Code required elevator recall smoke detectors that are connected to this system. No other detection or alarm devices are present in the Courthouse Building.

MECHANICAL SYSTEMS EVALUATION

HVAC Systems

The Courthouse facility, with the exception of the Courtroom, is heated and air conditioned by means of 7-propane fired, high-efficiency condensing furnaces each with DX cooling coils and condensing units.

- AC1/CU1: Is a 5 ton system supplying the Main Level Motor Vehicle area located in the main level ceiling.
- AC2/CU2: Is a 4 ton system supplying the Auditor Area located in the main level ceiling.
- AC3/CU3: Is a 4 ton system supplying the Court Administration Services Areas located in the upper level ceiling.
- AC4/CU4: Is a 3 ½ ton system supplying the west half Office Area of the main level and is located in the main area ceiling.

- AC5/CU5: Is a 3 ½ ton system supplying the main level Hallway and is located in the main level hallway ceiling.
- AC6 & 7: Are both 3 ton systems supplying the Basement and main level of the 1974 addition. The furnaces are located in Mechanical Rooms in their respective levels.

Generally these units are in good condition with the exception of the expansion area basement furnace, which shows rust due to basement flooding. All these units have operated more than half of their life expectancy and consideration should be given for eventual replacement. The second floor court area is heated and air conditioned by means of an attic mounted fan-coil unit with a 20KW electric duct heating coil and a 7 ½ ton DX cooling coil/condensing unit. This unit is also a similar vintage as the furnace units. The unit has an economizer system to cool the space with outside air when outside air temperatures are below 55° F. Outside air, however, is introduced from the attic space and not directly from the outside. The full benefits of the economizer cycle is not being reached because the attic temperature will be much warmer than actual outside air temperature even if the attic is well ventilated. In addition, the attic is a very dusty environment and there are potential air quality issues.

All air distribution systems utilize overhead supply and returns. Supplemental heat is provided throughout the entire upper and main levels with electric baseboard heat. Electric cabinet unit heaters are provided in entry vestibules and one cabinet unit heater is also provided in the upper level court services area. Electric heat is an expensive way to heat in comparison to propane gas systems.

Consideration should be given to eventually replace the second floor Courtroom system with a high-efficiency gas furnace system. Energy cost savings could be realized utilizing propane rather than electric heat. The economizer system should still be incorporated into the new replacement system for cooling. Outside air ductwork should be extended to the outside to introduce true outside air to fully utilize the economizer system. To reduce energy cost, electric baseboard heating could be eliminated, but with the old perimeter windows and poor wall insulation, drafty conditions could occur during winter months. In this case, high-efficiency hot water boilers and a hot water baseboard heating system could be provided, however paybacks are estimated to be well in excess of 10 years due to the cost (and disruption) of a new hot water piping distribution system and this should only be considered as a part of any major remodeling.

Plumbing

Plumbing and piping appear to be in good overall condition. Water heaters are electric and are in satisfactory condition. Consideration should be given for water heater replacement to propane gas to obtain energy cost savings.
Due to flooding, a perimeter drain tile system and sump pump is recommended for the lower level of the 1974 addition.

ENVIRONMENTAL, BUILDING CODE AND ACCESSIBILITY ISSUES

HAZARDOUS MATERIALS

A full building Hazardous Materials Survey should be conducted by the County. The survey should identify asbestos-containing materials (ACM) and other hazardous materials as defined by the Environmental Protection Agency (EPA). The survey should identify both friable and non-friable suspect ACM, and non-friable ACM that may become friable under demolition or renovation conditions. The survey should provide an approximate scope for the removal of ACM prior to any remodeling or renovation projects at the Courthouse.

When any restoration or remodeling projects proceed, it is recommended that all ACM be abated and disposed of according to all applicable codes. All ACM removal must be performed by a Minnesota licensed asbestos abatement contractor. All asbestos removal should be performed within the specified procedures.

Air monitoring is required for many asbestos-related projects. It is also recommended that throughout any renovation activities, precautions and work practices should be implemented to minimize dust levels. Dust suppression techniques should be required of any Contractor.

An additional hazardous materials survey for lead paint or PCB containing sealant materials should be performed on exterior and interior painted surfaces planned to be demolished or repainted.

BUILDING/LIFE SAFETY AND ACCESSIBILITY CODE ISSUES

As in any older or historic building, there are numerous building code and accessibility code shortcomings that will require correction to bring the building into compliance with current building and accessibility codes. Any major restoration of the Courthouse may trigger the requirements to make these code improvements.

These improvements may utilize provisions of the Minnesota State Building Conservation Code (MBCC) with the Guidelines for Rehabilitation of Existing Buildings (GREB). These Codes make allowances for existing and historic buildings and often can be used in conjunction with the Minnesota State Building Code for negotiating specific compliance issues.

EXISTING BUILDING/LIFE SAFETY CODE CONDITIONS

The primary building code concerns revolve around life safety issues. Significant code related issues are listed below in order of their likely relative importance.

1. The existing fire escape stair should be removed and replaced with a code compliant stair as a second means of egress from the second floor.

2. Access to the second exit (fire escape) stair and other egress doors should be improved as a part of the future renovations. This includes door swinging in the direction of exit travel and fire rating improvements of the existing doors; including the hatch to the attic.

3. Stair handrails do not meet current code standards for extensions.

4. Dead end corridors exceed 20 feet in length exist at the second floor corridors.

5. The corridor walls and openings from offices into the corridors are not fire rated.

6. 1 hour fire rated occupancy separation of the courtroom from the office areas is required due to the courtroom being classified as an assembly space.

7. Emergency lighting and exit lighting using light fixtures equipped with battery backup should be provided as a part any future remodeling.

8. The continued use of the attic for mechanical equipment is permitted as it would be classified as unoccupied space, however the stored county record books and other materials should be removed.

9. Other building code deficiencies include the lack of addressable fire alarm, fire sprinkler systems and emergency lighting.

Steel fire escape

Books stored in attic space

EXISTING ACCESSIBILITY CODE CONDITIONS

The goal of meeting accessibility requirements is especially important in public buildings like the Courthouse. This goal is challenging in existing historic buildings, where compromises are often needed to meet the spirit and intent of the ADA and State Accessibility Code which incorporates ANSI 117.1 along with some Minnesota specific amendments. ADA has specific guidelines for accessibility in existing historic buildings and accounts for issues that are 'technically infeasible' or would compromise historic aspects of the building.

The previous remodeling projects have already taken steps to meet the basic ADA requirements; an accessible route to the building, access to all floors of the building via elevator and access to accessible restrooms on each floor.

Building access is provided with an accessible entry at the west side of the building by entering on the ground floor with access to the elevator from a lobby combined with the Courthouse Annex. The entry doors, however, do not have power operators to meet current accessibility code requirements.
The elevator, added in the 1994 remodeling, services ground and the two occupied

floors for accessibility. Unisex accessible restrooms were also added as a part of the 1994 remodeling on first and second floors.

The following additional accessibility code shortcomings observed are listed below in order of their relative importance. They will eventually need to be brought into compliance as a part of future remodeling projects; or when public comment or the hiring of a disabled employee would trigger improvements.

1. Existing wall handrails at all stairs do not meet current code standards for height, grip and extension.
2. Most existing doors have knobs rather than accessibility compliant lever handles.
3. Public service counters do not have a counter at the accessible height.
4. Repairs required for concrete stoop, railings and sidewalk on exterior.
5. New high-low drinking fountains on first and second floors.
6. Any new fire alarm system should have both audible and visual notification.

The Minnesota State Building Code now mandates that 20 percent of any expenditure on remodeling in existing buildings be applied to needed accessibility improvements. This requirement should be reviewed with the County Attorney for confirmation if this would apply to remodeling or mechanical and electrical improvements.

SUSTAINABILITY GUIDELINES

Any future recommended remodeling or renovation projects should follow the Minnesota Sustainable Design Guide (B3) developed by the Center for Sustainable Building Research. They incorporate the LEED (Leadership in Energy and Environmental Design) point system. While many of the Sustainability Guidelines are not specifically tailored to renovation projects, a preliminary evaluation of the likely potential Courthouse remodeling or renovation work tasks would result in energy savings. Necessary construction costs should be compared with the potential energy savings paybacks to determine viability of the energy savings options.

When specific remodeling or renovation projects are planned, the goals of the sustainability guidelines should be evaluated and applicable elements of the guidelines implemented as a part of the proposed project.

THREE: REMODELING, RENOVATION OR REPLACEMENT PLANNING RECOMMENDATIONS

GENERAL PLANNING COMMENTARY

Recommendations for the remodeling, renovation and ongoing maintenance of the Traverse County Courthouse fall into three basic categories; Operational and Energy Improvements, Ongoing Routine Preventive Maintenance and Building, Life Safety and Accessibility Code Improvements. Most of the items identified fall into these three categories, with some overlap and all are linked to the maintaining the functional and operational aspects of the building as a physical resource for the delivery of County services.
At this point it is becoming evident that the existing courthouse will need major renovation in order to alleviate the ongoing problems identified by this and previous studies. The county board will need to evaluate whether to undertake a major renovation or begin the process of replacing the courthouse with a new structure.

Existing building drawings are included in the Appendix. The updated floor plans generally show the current existing conditions. Specific proposed remodeling, renovation or building code modifications are listed below.

OPERATIONAL AND ENERGY IMPROVEMENTS

- Modernization of the building's mechanical and electrical infrastructure using the existing equipment rooms and attic space.
- Integration of Building Automation System technology.
- Energy saving lighting controls
- Upgrading the data and communications by centralizing equipment in a common data room with proper cabling and data management.
- Replacement of existing single glazed aluminum windows and boarded up window openings with new insulating glass units.
- Existing insulation between the second floor ceiling joists should be upgraded where it has settled and insulation value added.

ONGOING PREVENTIVE AND ROUTINE MAINTENANCE

- Asset preservation-type improvements, including painting and masonry tuckpointing.
- Monitoring of the settlement cracking of the masonry and eventual repair of the 1891 foundation.
- Add rain drainage control with gutters, downspouts to control roof drainage.
- Replacement of the roof on the 1974 addition and the 1 story old jail.
- Wood board soffits should be replaced and the metal trim removed, painted and reinstalled.
- Replace the existing canopies over the south and east entries with more permanent structures.

BUILDING, LIFE SAFETY AND ACCESSIBILITY CODE IMPROVEMENTS

- Improvements to the handrails and railings and door knob replacement.

- Building code related upgrades to the interior doors and fire ratings separations of spaces within the building.
- Adding a fire sprinkler system to the buildings
- New high-low drinking fountains on first and second floors.
- Replace existing doors knobs with lever handles in a finish that matches the existing hardware.
- Life safety up-grades in the form of additional battery backed up emergency lighting and exit lighting.
- Provide a fire alarm and smoke detectors.
- Cracked or heaved concrete sidewalks should be repaired to provide for safe, accessible routes to the entries.
- Repair south concrete stair, masonry walls and cap with a new concrete stair and handrails meeting applicable codes.
- Existing hydraulic elevator should be provided with the necessary elevator code upgrades now mandated by the State Elevator Code and not previously addressed. The county's elevator maintenance contractor should be contacted for an estimate of the necessary repairs.

Roof

Roof replacement is not needed at the current time, and only normal maintenance is recommended. At a few locations the metal has separated from the building. Any deteriorated wood blocking should be repaired or replaced. The metal at these areas should be reattached to the face of the soffit so that it can perform its intended role.

Windows

Provide for removal of existing aluminum replacement window sash and replace with painted aluminum clad wood windows, with low E clear insulating glass and operating sash. Window interiors should match any remaining existing wood trim and finishes. Fixed aluminum clad wood transom windows should be provided in the upper sash. Exterior aluminum profile should match a typical historic brick mold. The thermal performance of window replacement option would offer a significant energy improvement over the existing windows. The boarded up existing window openings should be removed and replaced with new windows and the interiors remodeled to accommodate this change.

Brick/Stone Masonry Walls

Future monitoring of the movements of the wall may indicate further problems with the stone foundation. Re-pointing of the cracks in several areas of the walls and the joints along the stone water table should be part of the restoration plan to ensure proper function of the wall assembly. The re-pointing should include removal of the sealant joints and any deteriorated mortar present in the masonry joints, cleaning and preparation of the existing joint, and replacement with a mortar type which closely matches the original. Removal of the exterior face of mortar should extend deep enough to reach the original mortar. All replacement mortar and sealant must be removed. Studies of historic mass masonry wall systems, like the ones at the Traverse Courthouse, have found that this mass when heated or cooled can actually be highly efficient when left it their existing un-insulated state and will behave as was originally intended. No improvements to the insulating values of the exterior wall are recommended.

INTERIOR

Life safety up-grades, mechanical and electrical up-grades, and any potential program changes will likely require more extensive demolition and trigger a more general abatement of hazardous materials.

Any remodeling of the building should include the updating of the 1950s era finishes on the first floor. A reorganization of the offices and the layout of the spaces will allow for more efficient work environment and provide a better image to the citizens.

The second floor court administration, courtroom and probation offices would also benefit from an update. While the need is not a great, the second floor ceiling, lighting, carpets and other finishes warrant updating to correspond to any first floor work

OPTION ONE - REPAIR OF THE 1974 ADDITION AND LIMITED COURTHOUSE REMODELING

Option 1 would include the minimum scope of work to provide for use of the 1974 basement that would allow for limited improvements to the courthouse office areas. Other repair or maintenance items could be added to the scope of Option 1 depending on the availability of funding.

SITE

Option 1 would involve the repair and re-grading of the parking lot and site area around the 1974 addition to better control the surface water runoff from the roof areas of the addition and the courthouse. Some roof work on the addition and the old one story jail portion of the courthouse would be required to further direct the flow of roof water by adding cutters and downspouts. Site grading improvements appear to be required to further direct water away from the foundation of the 1974 addition. All roof rainwater falls directly to the ground without any gutter or downspout controls. Carrying the water away from the building and regarding the parking lot and landscaping would assist in control of water intrusion problems reported in the basement of the 1974 addition. Using soil borings would provide for further investigation of the water table at the site.

EXISTING BUILDING

With the site work accomplished, the lower level could then be remodeled to provide storage for the county records that were identified in the programming as needing only limited access. Other uses for the basement area would be for office and storage buildings and grounds and other miscellaneous storage needs like the voting equipment. Remodeling of the space would also likely require the installation of an interior foundation drain system and sump pump with battery backup as a further precaution against ground water intrusion. The mechanical system unit in the basement would be replaced, as it was also damaged during the water intrusion. Remodeling in the courthouse would be limited to areas where space has been freed up by the removal of the records storage. Other potential renovations would include the relocation of the IT Technician to the courthouse and the updating of the data and communications panels. The 1891 one story former jail space, now full of miscellaneous storage could be remodeled into a common break room for employees and the office for IT Services and a central data and communications room. A portion of the coordinators office and the storage room on the northeast corner could also be remodeled to allow for a shared conference space and a shared copy workroom.

ELECTRICAL OPTION 1

Main Service & Distribution

The electrical distribution system has sufficient capacity and breaker space within distribution panels for limited Courthouse Building office area remodeling. Although the electrical distribution system will allow for limited building modifications, additional breakers cannot be added to the main distribution panel. Significant revisions will require a main service replacement. The existing electrical distribution system would be connected to the new main service.

Lighting

Any fluorescent fixtures containing T12 lamps should be replaced with fixtures

containing T8 lamps and electronic ballasts. Existing fixtures will be relocated or new energy efficient recessed, 2x4 indirect fluorescent fixtures will be provided.
New fixture types should be standardized to reduce the number of replacement lamps that need to be stocked.
Incandescent and fluorescent exit fixtures should be replaced with LED type.

Fire Alarm & Detection

For long term protection of the building, the existing system covering the 1974 Addition should be extended into the Courthouse Building. This would require replacement of the existing Simplex #4001 panel with a #4010ES panel, which can utilize existing circuits and provide for future expansion.

MECHANICAL HVAC OPTION 1

HVAC

HVAC air handling systems are high-efficiency and in good condition. The basement furnace should be replaced due to previous water infiltration and flooding.
Outside air ventilation ductwork from the Courtroom unit fan-coil should be ducted to the outside to fully utilize the existing economizer system.
Eventual replacement of all furnace/condensing units with new systems could be considered based on the extent of any major remodeling. Replacement of the Courtroom fan-coil, 20 KW electric heating coil and condensing unit with a high-efficiency furnace/condensing unit could also be considered. The air side economizer system should be provided to the system.

Plumbing

Propane water heaters should be provided in lieu of existing electric water heaters.

PROBABLE CONSTRUCTION COSTS

Option 1 construction cost will likely vary somewhat depending on the extent of the remodeling in the existing courthouse, the roof drainage work and the re-grading and paving of the parking areas surrounding the 1974 addition.

Work Item	Area	Cost Basis	Probable Cost
Regrade and repave parking at perimeter of 1974 Addition	675 SY	$26/SY	$17,550
Provide lower level foundation drainage and sump pump at 1974 addition	220 LF	$65/LF	$14,300
Provide for reroofing of the 1974 addition and old jail	2100 SF	$12/SF	$16,000
Remodel lower level of 1974 addition for Records Storage	2100 SF	$40/SF	$84,000
Remodel File/Record Storage for Data and Break Room	560 SF	$65/SF	$36,400
Remodel Storage Room for Copy/ Work Center	420 SF	$30/SF	$12,600
Remodel Coordinator's Office for Veteran's Services	250 SF	$40/SF	$10,000
Electrical upgrades		LS	$8,000
Mechanical Upgrades		LS	$21,000
Option 1 Total Probable Cost			**$219,850**

OPTION TWO – MAJOR EXTERIOR AND INTERIOR RENOVATION OF THE COURTHOUSE AND 1974 ADDITION

SITE

The site work from Option 1 would be included in this scope of work**.** Removal and replacement of the canopies and the exterior fire escape would be included.

BUILDING

Option Two would include the renovation of the building's exterior masonry and windows. The boarded up windows would be replaced with new window openings and masonry repairs would include the opening of blocked up window openings in the courtroom and former jail space. The replacement of the roofs on both the 1891 and 1974 buildings would be proposed.

Interior renovation would include the reorganization and remodeling of all spaces on the first floor with new doors, frames and fire rated partitions and new finishes, ceilings, lighting and carpeting. Mechanical, electrical, data and communications systems would be updated or replaced and new fire alarm and fire sprinkler systems installed.

The existing fire escape stair would be removed and a code compliant second exit stair from the second floor would be either located within the building or as an addition.

ELECTRICAL OPTION 2

Lighting

Code states that the path of exit discharge away from the building must remain illuminated at all times when the building is occupied. At each exit, a lighting assembly consisting of an interior battery and two exterior incandescent fixtures will be required. The new exterior stairway would also be provided with both normal and emergency lighting.

MECHANICAL HVAC OPTION 2 (includes items in Option 1)

HVAC and Plumbing

Basically the same as Option 1 with the exception that with the window upgrades, a strong case can be made to eliminate perimeter electric baseboard due to the better perimeter envelope. The high-efficiency furnaces would provide all the necessary heating.

PROBABLE CONSTRUCTION COSTS

As described, **Option 2** consists of the overall remodeling and renovation of the entire courthouse and 1974 addition on both the interior and exterior.

Work Item	Area	Cost Basis	Probable Cost
Complete interior and exterior remodeling and renovation	12,500 SF	$130/SF	**$1,625,000**

OPTION THREE – DEMOLITION AND REPLACEMENT OF THE COURTHOUSE AND THE 1974 ADDITION

Option Three would include the demolition of the existing courthouse and 1974 addition. A new county courthouse/government center would be constructed at the same relative location on the site, reinforcing the county government campus location and eliminating the need to purchase land for the new building. This location would also allow for continued connection to the present Courthouse Annex and remain adjacent to the Law Enforcement Center buildings. The new courthouse building would be designed to return the sense of pride the citizens of Traverse County had in their courthouse, with materials and energy efficient systems consistent with other governmental buildings. It would be designed and constructed to have a lifespan of from 50 to 75 years.
Based on the space programming research, it is estimated the new building would be approximately 14,600 square feet. This new space would rely on contemporary office standards and efficient planning, while allowing for some future growth of county services. The county court spaces would be designed to meet current courtroom standards for accessibility and security.
The building would likely be two stories and contain similar departmental functions, but with a central public lobby area for organizing county services.

ELECTRICAL OPTION 3 (New Building Construction)

Main Service & Distribution

Provide an electrical service with sufficient capacity and expansion to allow for initial power requirements and future renovations or expansions.

A backup generator should also be provided that is sufficiently sized to supply power to key services or the entire building during power outages, allowing for continued operation of critical departments. The use of a backup generator will eliminate the need for interior and exterior battery powered emergency egress fixtures.

Lighting

Combinations of energy efficient, recessed 2x4 indirect fluorescent fixtures and LED downlights will be provided. Fixture types will be standardized to limit the number of replacement lamps. If a backup generator is not provided, interior and exterior battery powered emergency egress fixtures will be provided.
LED exit fixtures will be provided. If a backup generator is not provided, these fixtures will contain internal batteries.
Exterior, energy efficient LED fixtures will be provided at building exits and for parking lot illumination. If a backup generator is not provided, additional exterior battery powered emergency egress fixtures will be provided.

Fire Alarm & Detection

An addressable system will be provided, including elevator recall. This system will be sized for initial building requirements and to allow for future renovations or expansions.

MECHANICAL OPTION 3 (New Building Construction)

With a new building, many system choices exist. Based on the final design, the following potential Mechanical System options should to be considered.

Base System
System Option 3-A: High-efficiency furnace/condensing units.

This is essentially the existing system currently in place. Note that a new building exterior envelope meeting current energy codes would not require an electric baseboard heating system. This base system was used for construction cost estimating.

System Option 3-B - Central Variable Air Volume (VAV) System

A VAV air handling unit allows the airflow to vary by the use of zoned variable air terminals with motorized dampers or VAV boxes. Each desired control zone would have a VAV box in series with the existing supply air ducts and a zone space thermostat.

Each VAV zone would also have a heating coil associated with it. In this way, a central discharge air temperature would be delivered and humidity would be controlled at the central AHU, allowing fine tuning of temperature and volume control at each VAV zone box controlled by an individual space sensor serving each zone. This system would allow for more control zones than the base system.
High-efficiency boilers and hot water heating system would supply hot water to the heating coils.

System Option 3-C - Variable Refrigerant Flow Fan Coils

Variable refrigerant flow (VRF) fan coils use conventional mechanical refrigeration (DX) with split system heat pumps using a high efficient, variable speed compressor to generate heating or cooling using ducted fan coils. Similar to Option A, the fan coils (in lieu of VAV boxes) would be provided offering zone control. Conventionally, a single DX fan coil is piped to a single condensing unit with refrigerant piping. What makes this system unique is its ability to have multiple fan coils piped to a single condensing unit. The compressor is inverter driven which gives it modulating pressure control. Each fan coil would be outfitted with a hot water heating coil so ventilation air could be provided to each zone. A supplemental hot water heating system described in Option B would be provided.

System Option 3-D - Geothermal

The most common way to apply a geothermal system is using forced air, extended range, water source heat pumps. A glycol solution filled piping loop serves each heat pump from the well field.
The geothermal well field is estimated to cost approximately $150,000.00 but the area on the site may be insufficient. Because of site limitations for the well field, a hybrid approach is recommended for this option, where in a smaller boiler would supplement the well field capacity.

PROBABLE CONSTRUCTION COSTS

As described, Option 3 would require demolition of the Courthouse and 1974 addition and their replacement with a new County Government Center that would include county courts and county administrative offices.

Work Item	Area	Cost Basis	Probable Cost
Demolition of existing buildings and construction of a new County Government Center	14,600 SF	$185/SF	**$2,701,000**

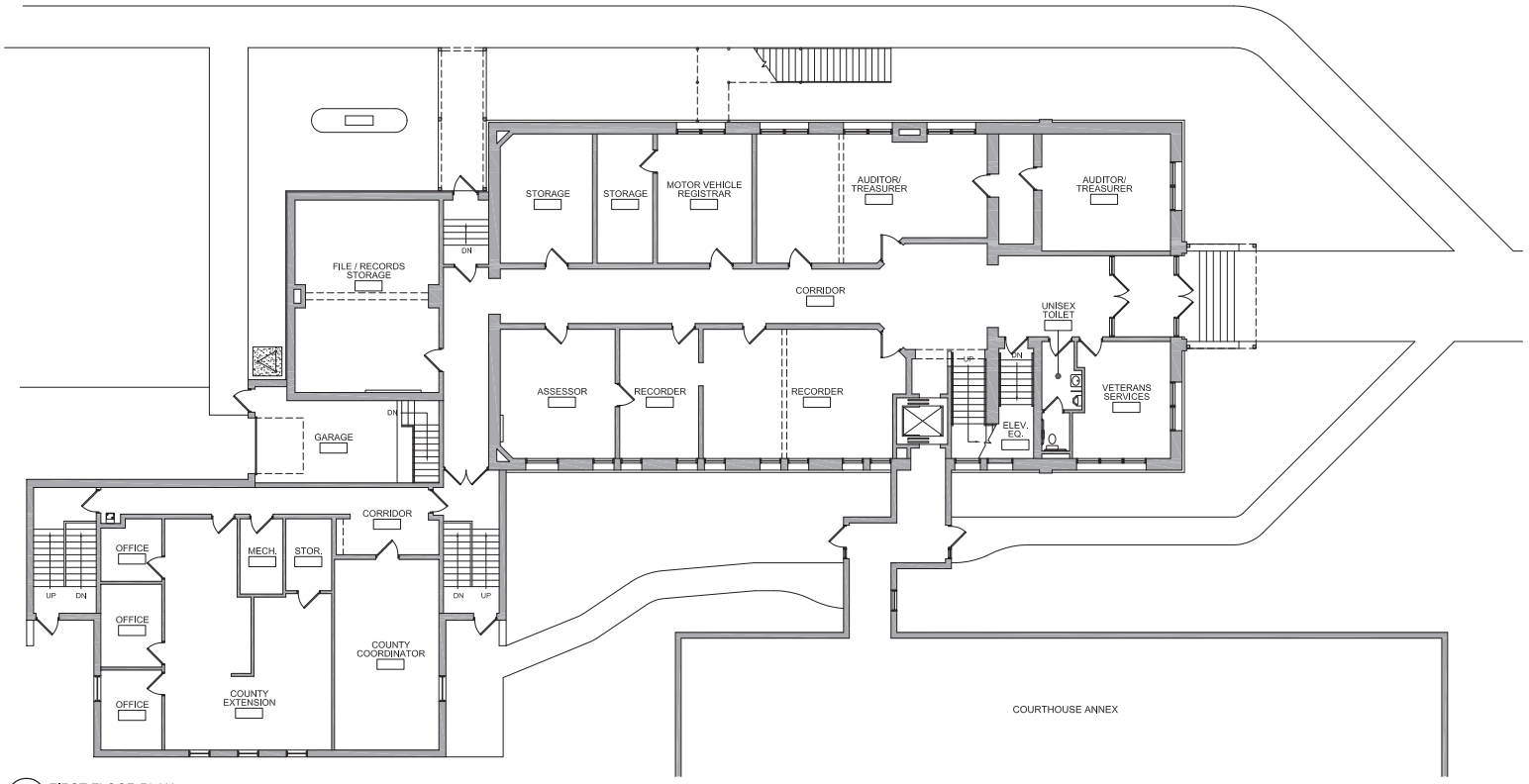
TABLE OF MECHANICAL EQUIPMENT OPTIONS			
System Type	**System Description**	**Area Served**	**Apply to Options**
AC1/CU1	*High-Efficiency Furnace 5 TON Cooling ≈ 12 years old*	*Motor Vehicle Main Level*	*Replace Under Options 2 & 3*
AC2/CU2	*High-Efficiency Furnace 4 TON Cooling ≈ 12 years old*	*Auditor Area Main Level*	*Replace Under Options 2 & 3*
AC3/CU3	*High-Efficiency Furnace 4 TON Cooling ≈ 12 years old*	*Court Services Upper Level*	*Replace Under Options 2 & 3*
AC4/CU4	*High-Efficiency Furnace 3 ½ TON Cooling ≈ 12 years old*	*West Offices Main Level*	*Replace Under Options 2 & 3*
AC5/CU5	*High-Efficiency Furnace 3 ½ TON Cooling ≈ 12 years old*	*Hallway Main Level*	*Replace Under Options 2 & 3*
AC6 & 7/CU6 & 7	*High-Efficiency Furnace 3 TON Systems ≈ 12 years old*	*1974 Addition Basement/Main Level*	*Replace Basement System Option 1 Replace Both Systems Options 2 & 3*
Courtroom	*Fan-Coil 7 ½ TON Cooling 20KW Electric Coil Economizer Cooling ≈ 12 years old*	*Courtroom*	*Reduct OA Option 1 Replace System Options 2 & 3*
Electric Baseboard	*Perimeter Areas*	*Perimeter Area*	*Option 3: Remove Baseboard*
Drain Tile System	*Building Perimeter*	*Building Perimeter*	*Provide on all Options*
Water Heaters	*2-Electric Water Heaters*	*Building*	*Option 2 & 3 Provide high-efficiency propane water heaters*

APPENDIX A

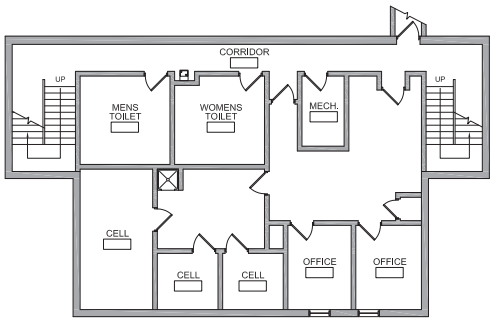
BUILDING DRAWINGS

EXISTING BUILDING DRAWINGS

Existing building drawings are included in the Appendix. The revised and updated floor plans generally show the current existing conditions based upon old drawings and field measurements. Specific proposed remodeling, renovation or building code modifications will need to field verify any existing conditions.



1 A201 FIRST FLOOR PLAN
SCALE: 1/8"=1'-0"



2 A201 BASEMENT FLOOR PLAN
SCALE: 1/8"=1'-0"

COLLABORATIVE DesignGroup, Inc.
100 Portland Avenue South, Suite 100
Minneapolis, Minnesota 55401
p 612.332.3654 f 612.332.3626
www.collaborativedesigngroup.com

Traverse County Courthouse

Wheaton, Minnesota

REVISION LOG

NO.	DATE	DESCRIPTION

12042.00
PROJECT NUMBER

MBN
DRAWN BY

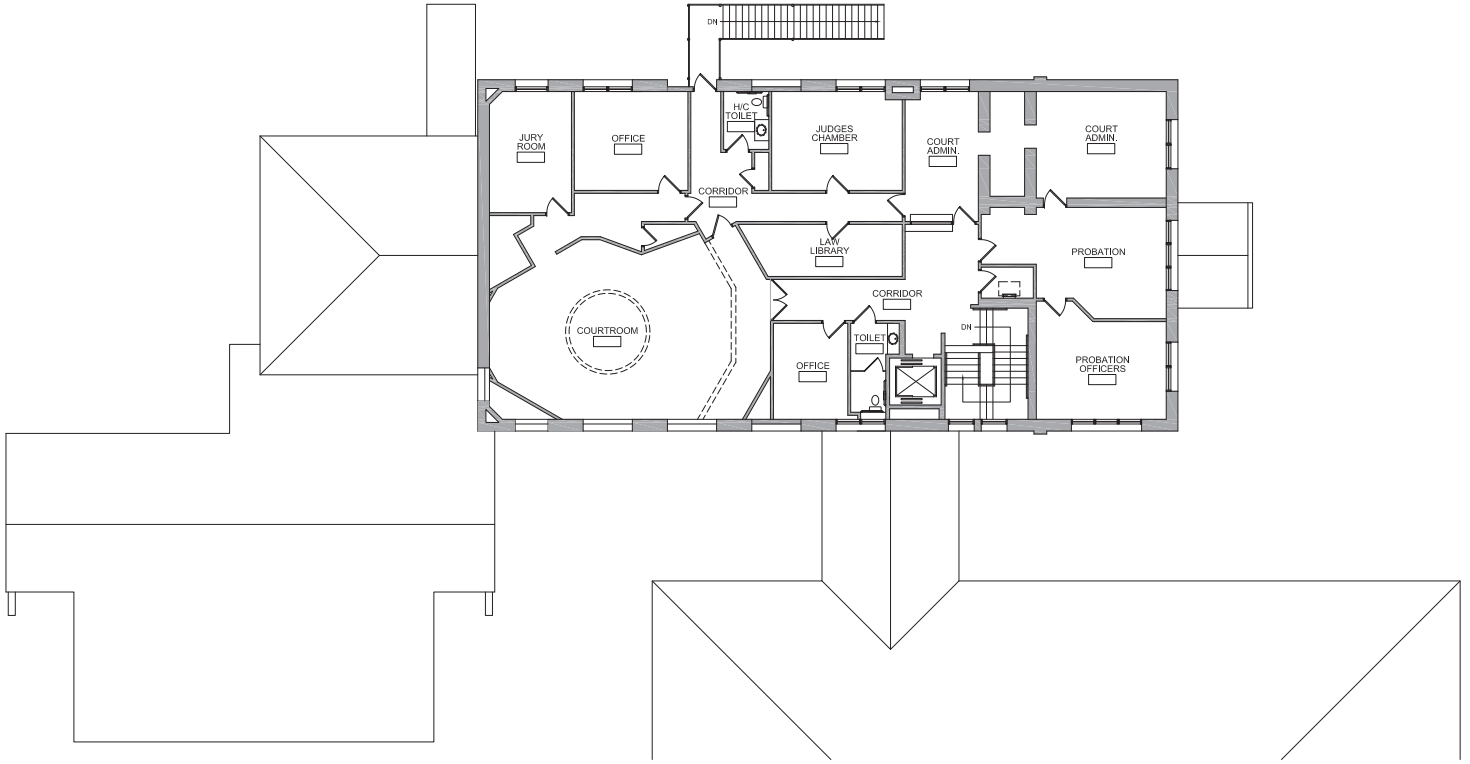
XXX
CHECKED BY

MWJ
PROJECT MGR.

MWJ
PROJECT ARCH.

BASEMENT AND FIRST FLOOR PLANS

A201



1 / A202 SECOND FLOOR PLAN
SCALE: 1/8"=1'-0"

COLLABORATIVE DesignGroup, Inc.
100 Portland Avenue South, Suite 100
Minneapolis, Minnesota 55401
p 612.332.3654 f 612.332.3626
www.collaborativedesigngroup.com

Traverse County Courthouse

Wheaton, MInnesota

REVISION LOG

NO.	DATE	DESCRIPTION

12042.00
PROJECT NUMBER

MBN	XXX
DRAWN BY	CHECKED BY
MWJ	MWJ
PROJECT MGR.	PROJECT ARCH.

SECOND FLOOR PLAN

A202

APPENDIX B

Space Needs Assessment

Traverse County Courthouse Study
Space Planning Summary

PROJECT SUMMARY

Department Name		Option 1 - 2	Option 3	Comments
Assessor Office		604	550	
Auditor / Treasurer		1380	1190	Would like conference spaces
Recorder		844	858	
County Coordinator		411	373	
Court Administration		2015	2468	Would like conference spaces
Probation		280	448	
Extension Office		1060	1058	
IT Technician		144	414	Proposed plan assumes the Server and LAN room would be in the new building
Veteran Services Solid Waste Safety Officer		403	678	Would like conference spaces
Shared Space			800	
Program Space Totals		**7,141**	**8,837**	
Basement Renovation Total		1,830		
Common Building Factor (65%)		4,642	5,744	
Building Totals		**13,613**	**14,581**	

Traverse County Courthouse Study
Space Planning Summary

PROJECT SUMMARY

Department Name	Space Use	Current Staff Qty	Future Staff Qty	Space Type (PO / OWS)	Current Usable Area	Proposed Area	Special Equipment	Adjacencies	Notes
Assessor Office									
	County Assessor	1		OWS	304	150			Currently in one private suite / would like a barrier between desk and client (similar to recorder office)
	Deputy Assessor	1		OWS		100			
	Workstation and Private Office Subtotals:	2	0		304	250			
	Front Desk/Check-In		1			see deputy assessor /shared			currently clients are received at suite / check-in could be shared
	Waiting Area								not necessary
	Break Room		1	desired					currently have small fridge and coffee within storage room / shared space desired
	Copy Room / Work Room								currently shared with auditor / treasurer office
	File space	1	1		100	100			Need current (2012) appraissal books near desk
	Storage	1			200	200		assessor office	currently have storage for field books and assessment records/ current storage is shared with recorder
	Shared Space subtotals:	2	0		300	300			
	Total:	4	3		604	550			

Traverse County Courthouse Study
Space Planning Summary

PROJECT SUMMARY

Department Name	Space Use	Current Staff Qty	Future Staff Qty	Space Type (PO / OWS)	Current Usable Area	Proposed Area	Special Equipment	Adjacencies	Notes
Auditor / Treasurer									
	County Auditor / Treasurer	1		PO	300	150			needs privacy
	Deputy Auditor/Treasurers	3		OWS	550	300	computer, printer, filing cabinets		(3) 100=300 / currently lan room rack is located in reception space / copier is used by assessor office, veterans office and county coordinator
	Motor Vehicle	1		OWS	300	150	license phot/scan machine, dedicated copier	Auditor / Treasurer	currently has (2) stations. One for daily transactions and one for the photo license machine / busy times are on license day and in the fall
	Workstation and Private Office Totals:	5	0		1150	600			
	Front Desk/Check-In		1			150			reception with counter facing main entry, storage for forms, etc. alarm would be nice
	Waiting Area	1	1		40	40			seating for 1
	Work Room/Copy Room	1	1		80	150			currently have storage in vault and auditor/treasurer office
	Work Room/Copy Room for Motor Vehicle	1	1		150	200			could be shared
	Conference Room(s)		1			200			secluded room for meeting with tax payers
	Shared Space subtotals:	3	5		230	590			
	Total:	8	5		1380	1190			

Traverse County Courthouse Study
Space Planning Summary

PROJECT SUMMARY

Department Name	Space Use	Current Staff Qty	Future Staff Qty	Space Type (PO / OWS)	Current Usable Area	Proposed Area	Special Equipment	Adjacencies	Notes
Recorder									
	County Recorder	1		PO/OWS	100	150			
	Deputy Recorder	1		OWS	100	100			
	Abstract Company Office	1	1		140	120			currently abstracts are handled by outside company and need a private workspace/
	Secure Vitals Station	1	1		64	48			need a secure work space for vitalsdocumentation / currently have a work station within the abstract company office
	Workstation and Private Office Totals:	4	2		404	418			
	Front Desk/Check-In	1	1	Front transaction counter		see work space above		Needs to be in direct view of work stations.	
	Waiting Area	1	1		40	40			Seating for 2 ppl
	Work Room/Copy Room	1	1		100	100			currently have copiers and plotter in open suite / need dedicated copier - not shared
	Conference Room(s)		1			shared			shared
	Break Room		1			shared			currently have fridge and coffee in suite / shared room desired
	Storage	1	1		200	200			storage for hard copy real estate records with workroom
	File Room		desired		100	100		Needs access to the work area as well as public	file room for plat files and fire safe with tapes
	Shared Space subtotals:	4	6		440	440			
	Total:	8	8		844	858			

Traverse County Courthouse Study
Space Planning Summary

PROJECT SUMMARY

Department Name	Space Use	Current Staff Qty	Future Staff Qty	Space Type (PO / OWS)	Current Usable Area	Proposed Area	Special Equipment	Adjacencies	Notes
County Coordinator									
	County Coordinator	1		PO	411	225			(3) 4-dwr files, (2) 2-dwr lat / conference space /
	Assistant		1	OWS		48			
	Workstation and Private Office Totals:	1	1		411	273			
	Front Desk/Check-In								Doubles with Administrative Assistants work station. Needs to have public barrier.
	Waiting Area		1			100			Would like area for 4-5 ppl
	Work Room/Copy Room			shared with Extension					Currently share copier and have no separate work room area.
	Conference Room(s)	1							currently conference table is within office
	Storage	1							currently have 8-10 banker boxes in annex building
	Shared Space subtotals:	2	1		0	100			
	Total:	3	2		411	373			

Traverse County Courthouse Study
Space Planning Summary

PROJECT SUMMARY

Department Name	Space Use	Current Staff Qty	Future Staff Qty	Space Type (PO / OWS)	Current Usable Area	Proposed Area	Special Equipment	Adjacencies	Notes
Court Administration									
	Court Administrator	1		PO	447	150			
	Deputy Court Administrator	1		OWS		100			
	Hotel Station	1		OWS		48			
	Front desk		2	OWS		160			2 at 80SF
	Workstation and Private Office Totals:	3	2		447	458			
	Waiting Area								
	Work Room/Copy Room	1			70	100		Court Admin/Offices and Courtroom	
	Conference Room(s)		2			300		Court Admin/Offices and Courtroom	(2)150 = 300sf/ 4 person ea for attorneys
	Break Room	1							
	Storage								for court files
	Law Library	1			160	160			
	Jury Room	1			180	200			
	Judges Chamber	1			268	250			
	Courtroom	1			890	1000			
	Shared Space subtotals:	6	2		1568	2010			
	Total:	9	4		2015	2468			

Traverse County Courthouse Study
Space Planning Summary

PROJECT SUMMARY

Department Name	Space Use	Current Staff Qty	Future Staff Qty	Space Type (PO / OWS)	Current Usable Area	Proposed Area	Special Equipment	Adjacencies	Notes
Probation									
	Probation Officers	2		PO	280	300			(2) 150=300
	Administrative Asstistant	1		OWS		100			
	Intern		1	OWS		48			
	Workstation and Private Office Totals:	3	1		280	448			
	Front Desk/Check-In	see OWS above							
	Waiting Area	1			40	80			Need waiting area for families
	Work Room/Copy Room	1			100	100	copier, computer, server		
	Conference Room(s)		1			see shared			Private meeting area for families
	Break Room								Hand sink , refrigerator, microwave and coffee station, plus seating area for 12
	Storage		1			see shared	file cabinets, equipment		
	Shared Space subtotals:	2	2		0	0			
	Total:	5	3		280	448			

Traverse County Courthouse Study
Space Planning Summary

PROJECT SUMMARY

Department Name	Space Use	Current Staff Qty	Future Staff Qty	Space Type (PO / OWS)	Current Usable Area	Proposed Area	Special Equipment	Adjacencies	Notes
Extension Office									
	4H program Coordinator	1		PO	100	120	space to meet with guest		Offices need lockable files for data privacy
	Nutrition Education Coordinator	1		PO	100	120	space to meet with guest		Offices need lockable files for data privacy
	Administrative Assistant	1		OWS	100	80			
	Seasonal Intern	1		OWS	100	48			
	Workstation and Private Office Totals:	4	0		400	368			
	Front Desk/Check-In	1			100	100		Needs to be next to work room / Files / Storage	OWS; Need reception area facing entry, PC, storage
	Waiting Area	1			80	80			1-2 ppl
	Work Room/Copy Room	1			200	150		Near support staff	Need one with large table – work area
	Conference Room(s)		1			200		Adjacent to offices& reception area	Conference room that could be shared with another department; 10 ppl for use day&night
	Break Room	1			100	60			currently have small sink and kitchenette in suite /
	Storage	2			100	100	shelving		Room with shelving for 3-ring binders and plastic totes with 4-H supplies,
	File Room	1			80				15 file cabinets
	Shared Space subtotals:	7	1		660	690			
	Total:	11	1		1060	1058			

Traverse County Courthouse Study
Space Planning Summary

PROJECT SUMMARY

Department Name	Space Use	Current Staff Qty	Future Staff Qty	Space Type (PO / OWS)	Current Usable Area	Proposed Area	Special Equipment	Adjacencies	Notes
IT Technician									
	MIS Technician	1		PO/OWS	144	150			currently
	Future		1	OWS		64			
	Workstation and Private Office Totals:	1	1		144	214			
	Storage		1			100		Needs to be next to IT office, locked with access tracking (card readers)	IT Staging area for incoming systems/shipments/outgoing systems/spare parts
	File Room								in office
	LAN Space	1	1			100			currently the LAV rack is in the Auditor / Treasurer Office / Data Center, temperature controlled, no carpet, connected to generator system, fire suppression if possible
	Shared Space subtotals:	1	2		0	200			
	Total:	2	3		144	414			

PROJECT SUMMARY

Department Name	Space Use	Current Staff Qty	Future Staff Qty	Space Type (PO / OWS)	Current Usable Area	Proposed Area	Special Equipment	Adjacencies	Notes
Veteran Services Solid Waste Safety Officer									
	Veterans Service Officer	1		PO	223	150			needs privacy to meet with Veterans
	Administration Assistant (reception, data entry greeter)	1		OWS		100			
						0			
	Workstation and Private Office Totals:	2	0		223	250			Current 2 FT/1 PT-Future 3 FT/1 PT
	Waiting area					48			waiting area for 4 ppl; may be in hallway
	Work Room/Copy Room								shared with Assessor/Treasurer
	Conference Room(s)		2			200			2 private rooms for Vets and families; 3 ppl ea / could be shared
	Break Room								Share with building and that's OK.
	Storage		1		100	100			can be shared; markers for graves, flags, holders, supplies, etc.
	File Room	1	1		80	80			7 file cabinets. Secure room / Currently have (4) verticle files and laterals at desk
	Shared Space subtotals:	1	4		180	428			
	Total:	3	4		403	678			

Traverse County Courthouse Study
Space Planning Summary

PROJECT SUMMARY

Department Name	Space Use	Current Staff Qty	Future Staff Qty	Space Type (PO / OWS)	Current Usable Area	Proposed Area	Special Equipment	Adjacencies	Notes
Shared Space									
	Reception								
	Waiting area								
	Work Room								
	Small Conference (2-3) people			2		300			(2) rooms at 150 sf ea
	Medium Conference (4-6) people			1		250			
	Break Room			1		250			
	File Storage								
	Archive Storage								
	Workstation and Private Office Totals:	0	0	4		800			

APPENDIX C

Previous Courthouse Study

TRAVERSE COUNTY
COURTHOUSE COMPLEX STUDY
WHEATON, MN

Prepared By:
HURST & HENRICHS, LTD.
315 South University Drive
Fargo, ND 58103
(701-232-0449)

TABLE OF CONTENTS

INTRODUCTION

The Traverse County Board of Commissioners have before them the problem that there is a shortage of adequate work and storage space for the departments housed in the Courthouse Building, and there is also a need to upgrade various systems and spaces to meet the current requirements of the State of Minnesota.

The original Traverse County Courthouse building was constructed in 1891-92. Additions to the building include the 1928 addition on the south end of the 1891 building, the 1939 addition on the northeast corner of the 1891 building and the 1973 addition on the northwest corner of the 1891 building. The present Courthouse facility is poorly insulated and expensive to operate on a yearly basis. The exterior of the building is becoming deteriorated and is in need of major repair. The interior finishes on the first floor of the courthouse building date back to the 1950's and should be upgraded. The building does not have an automatic fire suppression system and the interior of the building is of combustible construction, which presents the possibility that if a fire were to occur, the entire building could be lost. The configuration of the building and construction type of the building, places limitations on how a remodeling/expansion program might be accomplished. Before investing money in repairs on the present facility or proceeding with planning how to accommodate departmental needs, the Traverse County Board of Commissioners have retained the firm of Hurst and Henrichs, Ltd. to conduct a study of the present Courthouse facility to identify; the present condition of the building and building systems; identify the deficiencies which exist with the building and the needed repair to maintain the building, identify cost of repairs needed to maintain the building in its present condition, conduct a life-cycle cost analysis of continued operation of the present building including costs to upgrade to meet additional space needs vs. abandoning the present building and constructing a new Courthouse/County Governmental Office Building.

The new Annex Building, while connected to the courthouse with an arcade, is considered to be a separate building and is not included in this study.

STRUCTURAL SYSTEMS & CONSTRUCTION

The drawings for the original building are dated 1891. County historical records indicate that construction started in October of 1891. The main portion of the building is a two story structure. A small single story structure, which originally was the jail and the rear exit, is attached to the rear of the building. The exterior foundations (which are visible) are split field stone held in place with mortar. Below grade, the foundation/footings are uncut field stone. The exterior walls, above the stone foundation, are load bearing solid brick masonry construction with limestone trim exposed to the exterior face of the building. The interior of the exterior masonry walls are furred with wood to which wood lath and plaster finish is attached. The interior framing system of the building is entirely of wood construction with exception to a couple of small vaults on the first floor which have

brick masonry walls and concrete floors. There is a crawl space below the first floor joist which this writer accessed to observe the first floor framing system. The rough sawn wood first floor joist span from the exterior perimeter wall to continuous foundation walls, constructed of field stone held together with mortar, located below the main corridor walls on the first floor. The main corridor walls on the first floor are wood stud construction and provide support for the wood second floor framing. The roof framing clear spans the width of the building. The wood framed walls on the second floor are not load bearing. Deep truss framing members built with heavy timber and steel rods, which span the width of the building and provide support for the pitched roof framing. The steep pitched roof is framed with rough sawn wood rafters which bear on the heavy timber trusses. The roof decking is wood with asphalt shingles on top. Originally the 1891 building had a bell tower and steeple on the south end of the building; however, the bell tower and steeple were removed when the 1928 addition was put on. Remnants of the old bell tower remain in the attic space of the 1928 addition. The single story jail/rear entrance-exit on the rear of the main building is the same type of construction as the main building.

The 1928 addition located on the south end of the original building added 20 feet to the overall length of the original 1891 courthouse building. The floor levels and roof line of the addition match the elevation of the original building. Construction of the 1928 addition differs from the original building in that the foundation system is of poured concrete construction and the area east of the main corridor was designed to be a fire vault and have poured concrete floors and ceilings. The interior walls surrounding the vault are load bearing brick masonry construction above the poured concrete foundation. The north wall of the vault is the solid masonry wall of the original building. The area of the building to the west of the vault has wood framed floors and walls. The roof framing and roof sheathing over the entire addition is wood and is basically an extension of the original 1891 building roof framing.

The 1939 addition is a small single story addition located on east side of the original building, at the northeast corner. The foundation system is poured concrete and the floor is a structural elevated concrete slab with a crawl space below. It is unknown to this writer how the roof is framed; however, it is assumed that the roof is a structural concrete slab. The roof is flat surrounded by a brick parapet. The exterior walls are solid brick masonry construction with a plaster finish on the interior.

The 1973 addition, located off the northwest corner of the original 1891 building, is a single story building with a basement. A slab on grade garage/sallyport infills the space between the old jail and the new building. The first floor elevation matches the level of the original 1891Courthouse Building. The footings and basement floor slab are poured concrete. The exterior basement foundation walls are load bearing concrete block, exposed to the interior. Above grade, where the foundation walls are exposed to the exterior, the walls are uninsulated concrete block/brick veneer construction with the concrete block being exposed to the interior. The interior walls in the basement are non load bearing concrete block. The first floor is framed with precast concrete plank with concrete topping over the precast plank. Above the first floor, the south, west and north

exterior walls in the office areas are framed with 2x6 wood studs which are insulated and have a gypsum board interior finish. The east wall and north and south stairwell walls are uninsulated load bearing concrete block/brick veneer with the concrete block exposed to the interior. The interior walls on the first floor are non-load bearing and are a combination of wood stud/gypsum board and exposed concrete block construction. The roof is framed with sloping top chord steel joists and corrugated metal deck.

STRUCTURAL SYSTEM CONDITION REPORT

Considering its age, the original 1891 Courthouse Building structural condition is quite good; however, several major repairs have been required to slow deterioration and to maintain the structural integrity of the building. The north end of the building has been tied together, in an east west direction at the second floor line, with a large steel rod extending through the building and secured at each end, on the outside of the building, with steel plates and nuts. The original roof rafters apparently are undersized for the span which over time allowed the roof to sag. Extensive bracing has been installed beneath the rafters to supplement the original roof framing system to attempt to prevent further deflection and movement of the rafters. When the original rafters deflected, the rafter tails which form the eave rotated upward and pulled the wood soffit and metal decorative elements, attached to the under side of the soffit, away from the brick on the wall creating the illusion of the brick wall moving inward. The birds and bats have taken advantage of the void space created by the structural movement as a space for nesting or entrance to the attic space.

Since the last major structural repairs were done to the building, deterioration of the exterior enclosure has continued. A crack in the east wall, running vertically up the wall at the south first and second floor windows, appears to be growing larger. It is obvious that the crack has been repeatedly caulked over and once again has reopened. Water has apparently gotten into the crack and frozen, which has accelerated movement and damage to the brick. Damage to the brick at the jamb of the first floor window is such that the brick should be taken out and relaid. The configuration of the crack indicates that a movement or failure in the footing has occurred. The headers over the second floor windows are a shallow brick arch without any steel lintels. Several of the second floor window headers have cracks or lose brick in them and may have lost some structural integrity. One header above a second story window opening on the east wall appears to have been partially rebuilt. The mortar joints in the brick on the north wall, at the northeast corner of the 1891 building, are severely eroded and the brick shows signs of severe water infiltration into the masonry wall is occurring. There is also a crack in the brick above the first floor window head at the northeast corner of the north wall. The movement causing the crack above the window probably has been stabilized by the steel rod which runs through the building at the second floor. Faces of the brick window sill in the north wall at the first floor have spalled off from water infiltration and freezing. This writer also observed on the upper part of the north wall near the northwest corner that the wall is bulged outward. On the west wall above the head of the second floor window opening, at the northwest corner of the building, there is a significant crack in the brick

masonry window header, which is being created by outward movement of the north wall. From visual appearances, the bulge in the north wall and the crack above the second story window on the west wall are a recent problem and no repairs appear to have yet been made to stop the movement. The west wall of the building has several vertical cracks in the brick masonry which have been caulked and have reopened. Water coming off of the 1973 addition roof is running down the west wall of the1891 building and is eroding the mortar joints and deteriorating the brick..

The brick masonry walls of the single story jail on the north end of the 1891 building are in poor condition. Brick have fallen out of the header above the window on the east wall. Water coming off the 1973 building is running down the north wall of the old jail and is destroying the brick. The brick walls have many cracks which extend into the stone foundation, which is very indicative of a failure in the footing/foundation system. There is a severe sag in the north slope of roof which is visible from the ground. This writer did not get into the attic space to determine if there are broken rafters or if the rafters are undersized and sagging from repeated overloading.

The interior wood floor and wall framing system of the 1891 building is in very good condition considering the age of the building. This writer was surprised by the absence of squeaks in the floors. This writer did observe that the first floor is not true and level and it appears that settlement has occurred in the foundation system. In the crawl space, under the first floor, large holes have been cut in the stone foundation walls, beneath the main corridor bearing walls, for steam piping and access to adjacent spaces. There are no structural headers across the openings leaving only the sill plate on which the floor joist bear to span the opening. The sill plate is not an adequate header therefore, additional framing is required to make the floor framing system structurally sound.
The cracking of the exterior masonry walls is an indicator of possible deterioration/failure in the footing/foundation. To confirm the construction of the foundation/footing system of the 1891 building this writer requested to have a hole dug along side the foundation wall to expose the below grade portion of the foundation footing. After the hole was dug and the remaining dirt removed from the foundation it was found that there is no concrete footing under the stone foundation walls. The bottom of the stone foundation is only 3' below, grade well above the normal 5' frost depth which makes the foundation susceptible to movement from frost action. It was also found that the mortar which had been placed between the stones has turned to sand or is gone completely creating voids between the stones. With the stones in the foundation in a loosened condition the foundation, the foundation no longer serves as a continuous rigid beam and is susceptible to differential movement caused by moisture content in the soil and frost action. Differential movement in the foundation has occurred and transferred into the masonry walls above causing the brick masonry walls to crack .

The 1929 addition is structurally in very good condition. The poured concrete foundations appear to be in good condition. The exterior load bearing brick masonry walls have no serious cracks. The mortar joints in the brick masonry walls are somewhat

eroded but again considering the age of the building, are in good condition. The interior floor, walls and roof framing are also in good condition.

The 1939 addition structurally appears to be in good condition. A leaky collector box at the roof drain on the east wall has provided a source for water to infiltrate the brick. Freeze-thaw cycling has caused the faces of the brick to spall off in a large area. With the hard faces gone on the brick, the soft inner core of the brick is exposed to the weather, allowing the brick to absorb moisture and deteriorate at a rapid rate. It is unknown if the leaky collector box was fixed when the rubber roof was put on.

The 1973 addition is comparatively new building. This writer did not observe any indicators of any problems with the foundation/footing system and floor framing system; however, the ridge line of the roof has a sag in it indicating some sort of failure in the roof framing system. Possibly, excessive snow loading could have damaged the roof joist causing a permanent sag to occur. Further investigation is required to determine the severity of the problem with the roof framing. Water infiltration in the basement is a problem and if not corrected, will eventually deteriorate the foundation system.

ARCHITECTURAL REVIEW

EXTERIOR ENVELOPE

The Traverse County Courthouse aesthetically, presents a rather poor image from the exterior. The 1891 building has three building additions attached to it. The additions are very pronounced in appearance because the brick masonry walls of the additions do not match the original building in style of architecture, brick pattern or in color and texture. Where the brick masonry exterior walls of the 1891 building have been repaired, or an opening filled, the replacement brick are not the same color or texture of the wall it was put in and the result is that the patch work shows very vividly. The 1891 building has cracks in the brick which have been patched with caulking of a color which does not match the brick. The mortar joints in the brick is deteriorated and some brick faces have spalled off. There are now open cracks in the brick which have not been caulked and will take on water and will cause deterioration of the walls. When the second floor of the 1891/1928 building was remodeled several windows were removed and filled in with studs and solid painted plywood panels. No attempt was made to mimic the lines of the windows which were removed and the infill panel presents the appearance of being "boarded up". The paint is peeling from the wood which makes the appearance more pronounced.

As previously stated in the structural report, the roof on the 1891 building roof sagged and the wood soffits and metal trim are pulled away from the wall. Birds have taken residence under the eaves in the metal trim and bird droppings cover the brick walls where the birds are nesting. In several locations in the 1891 building and the 1929 addition the wood boards on the underside of the eaves are rotting out and in need of repair/replacement. Any paint that was on the soffits and metal trim is severely deteriorated or gone completely. The metal trim under the soffits is rusty.

The original wood windows in the 1891 building, 1929 addition and the 1939 addition have all been replaced with DeVac, multi-pane aluminum windows. Thirty years ago a DeVac window was a top of the line replacement window. While the windows are still serviceable, age has taken its toll on the weather stripping and dirt and air leakage is occurring around the panes. Air infiltration causes the windows to be less energy efficient. The windows in the 1973 building are also DeVac multi-pane single hung aluminum windows and are in serviceable condition.

The aluminum entrances and sidelites are single glazed and while serviceable, have no insulation value.

The main entrance on the south end of the building has a set of vestibule doors inside the building which helps to slow cold transfer into the building. In the 1973 building, the aluminum entrance doors and transom panels are single glazed. The doors are serviceable; however, the single glazing provides no insulation value. Both entrance doors in the 1973 building are exposed to west/northwest winds and open direct into building. Without any vestibule doors at the entrances, the cold air goes directly into the corridors and creates discomfort to the occupants of the building. This writer was told that temperatures in the corridors in the 1973 building can be as low as the mid 30's if the weather is extremely cold outside and the exterior doors have been used.

The pitched roofs on the 1891 building and the 1929 addition are shingled with heavy asphalt shingles which were put on some 15 plus years ago. The shingles are still serviceable; however, they are starting to show signs of deterioration. The asphalt used in manufacture of the shingles is drying out which causes the shingles to curl and become brittle. Replacement of the shingles will probably necessary within the next 5 years. The roof on the 1939 addition has a relatively new ballusted EPDM rubber roof and appears to be in good condition. The 1973 building has a sloped asphalt and gravel roof which is believed to be the original roofing when the building was built. If the asphalt and gravel roof which is on the building is the original roof, it has outlived normal life expectancy for a built-up roof. The reason the roof has lasted so long is that there is only 1 ½" of fiberboard insulation under the roofing and heat loss through the insulation has protected the roofing from thermal shock. The lack of insulation adds to energy consumption to operate the building. The 1973 building roof has a ridge running in a north south direction at the center of the building. The slope of the roof on the east side of the ridge runs toward and abuts the existing 1891 building in a valley. This is a very bad detail because all water accumulated must run out the ends of the valley which in turn runs down the adjacent walls causing the brick to deteriorate.

The original 1891 building and the additions have little or no insulation which results in high energy consumption to heat and cool the building. The 1891 building and the 1928 addition have blown fiberglass insulation in the attic space; however, the walls are solid brick masonry with no insulation. The walls of the 1939 addition are solid brick masonry and are uninsulated. It is unknown if additional insulation was added to the roof of the 1939 building when the rubber roof was put on. The exterior walls of the first floor

offices in the 1973 building are insulated with blanket insulation in the stud space. The remainder of the walls in the 1973 building are solid masonry construction with no insulation. The roof of the 1973 building has minimal insulation. Energy consumption and costs to be discussed later in this report

INTERIOR REVIEW

The interior finishes on the first floor of the courthouse (the 1891 building plus the 1928 and 1939 additions) date back to the 1950's. While the finishes on the first floor of the courthouse are serviceable, the environment is somewhat dismal to work in and for those who come to the courthouse on business. The second floor was completely renovated in 1985 and does present a far better image than the first floor. The second floor finishes are more modern and in better condition than the first floor; however, the renovation was done 16 years ago and spaces have become too small or new spaces are needed. The state of Minnesota court system is also requesting various upgrades. The interior finishes of the 1973 addition are in reasonably good condition requiring only fresh paint. The west basement foundation wall is leaking which is causing the paint to peel on the interior of the wall. To stop the water infiltration, the exterior of the foundation wall needs to be exposed from the exterior and foundation waterproofing applied.

It is this writer opinion that the greatest deficiency with the present court house facility is that the 1891 building and a portion of the 1928 addition is of unprotected combustible construction. All of the wall finishes on the first floor of the 1891 building and the 1928 and 1939 additions are combustible material which will contribute to the rapid spread of fire and smoke if a fire were to get started. There are no fire rated door assemblies in the main corridor and adjacent spaces on the first floor to protect occupants who must egress the building or to serve to contain a fire within a space in the building. The 1973 addition is isolated from the courthouse with masonry walls and fire doors which serves to limit the spread of fire between spaces. The 1939 addition is not seperated from the 1891 building with a self closing fire door and is subject to severe damage if a fire were to occur in the 1891 building. The east half of the 1928 addition was constructed to be a vault and is fire resistive construction. The old vault doors, which are assumed to be fire resistive, remain in place but are not self closing and present the hazard of being left open to allow fire to spread into the vaults. The first floor framing is exposed to the crawl space below the first floor and has no access to the exterior for firemen to fight a fire below the first floor. The second floor was remodeled in 1985 and has gypsum board wall finishes which are noncombustible; however, when the second floor was remodeled, walls were installed with inaccessible spaces behind them where a fire could go undetected for a period of time and would be hard for firemen to get at if a fire was burning.

BUILDING CODE ISSUES

The Minnesota State Building Code is not retroactive to existing buildings however if renovation or remodeling work is done to the building, all new work must be done in accordance with the code. The building exceeds allowable area and number of stories permitted by the current Minnesota State Building Code for unprotected wood framed buildings. The exit ways throughout the building are unprotected and the 2nd means of

egress from the second floor is in violation of current code requirements. The interior finishes in the building are combustible and the building is not compartmentalized to prevent the spread of fire.

MECHANICAL/ ELECTRICAL SYSTEMS

This report will review the plumbing systems, the heating/ventilation systems, and the electrical systems in the building. The current systems represent an ongoing commitment by the County Commission and Administration to insure that obsolescence does not occur in the building's mechanical and electrical systems.

Thomas L. Vesel, P.E.
Engineering Design of Fargo, Ltd.
My Minnesota Registration Number is 13434

PLUMBING

The plumbing within the building is clean, operable, generally code-legal, and appears to be well maintained. Bathrooms are reasonably well lit.

1. The main courthouse building was provided with new handicapped-accessible bathrooms within the last decade.
2. While the bathrooms in the 1973 addition date to the original construction, the copper water piping and cast iron waste piping appear to be in good condition.

HEATING AND VENTILATION SYSTEMS

The building is currently provided with a number of high-efficiency condensing furnaces: High efficiency condensing furnaces use a secondary stainless steel heat exchanger to extract additional heat from the flue gasses, resulting in very high efficiencies and extremely low flue temperatures. A standard furnace with a standing pilot light is generally considered to have an annual heating efficiency of approximately 75%. Condensing furnaces have annual heating efficiencies in excess of 90%. Because of the high level of heating energy extracted by the flue gasses, the discharge temperature of the flue gasses is so low that some of the flue gasses actually condense; the slightly acidic water is discharged to an adjacent drain.

ORIGINAL COURTHOUSE BUILDING:

Last year, the central heating system in the original courthouse was replaced with a number of new heating and cooling systems consisting of:

1. Five new high efficiency condensing furnaces. The first floor furnaces are vented through the side walls of the building.
2. Ductwork systems associated with these furnaces. Ductwork system consists of ceiling supply diffusers and return air grilles in the ceiling. Each system incorporates an outdoor air intake system to provide code-mandated outdoor air based upon the number of occupants in the space. Current codes mandate 15 cubic feet of air per minute (CFM) per occupant in a space; when Minnesota adopts the new building code, that mandated level will rise to 20 CFM.

3. Cooling packages for each of the furnace systems consisting of two 3-1/2 ton systems (one ton of cooling = 12,000 Btus), two four-ton systems, and one five-ton system. The outdoor units are ground-mounted on both sides of the building.

The heating and cooling system for the courtroom, installed within the last decade, was not replaced with a new furnace system. The courtroom is currently heated by a combination of electric baseboard and a 20,000 watt electric heating coil installed in the discharge duct of the cooling unit serving the courtroom. While it could be questioned why a condensing furnace was not installed to replace the electric duct heating coil, this engineer believes the decision was a rational one. The heat loss of the courtroom is relatively small compared to other heating zones in the building; justification of the cost of installing a new furnace based on energy cost savings would have been extremely difficult.

The courtroom also includes an economizer (outdoor air) cooling cycle. Because most cooling systems are based on a discharge temperature of 55-60 Deg.F., utilizing outdoor air for cooling when the outdoor temperatures are below these temperatures not only saves energy costs but wear and tear on mechanically-operated cooling equipment. Because a large group of people in the courtroom generate large quantities of heat, cooling in the courthouse could be required any day of the year; the economizer cycle insures that cooling, either "economizer" or "mechanical", is available in the courtroom whenever needed.

This engineer would recommend that the county make a small modification to the economizer system on the courtroom heating and cooling package. At the present time, the "outdoor air" the unit draws is actually attic air. As the unit draws air from the attic, it is replaced by outdoor air from a louver at the end of the attic. While this system works fine in the winter, drawing the air through the attic above the insulation during the spring and fall raises the temperature of the air, especially when the sun is shining on the roof. During the spring and fall, however, a number of "economizer" cooling days are lost because the heat gain in the attic raises the temperature above the 60 Deg.F. threshold, requiring the use of mechanical cooling. If the court is busy during the spring and fall, the commission may wish to consider extending a duct from the unit to the louver and insulating the duct.

ENERGY USAGE

A review of the County's propane consumption for the 1999-2000 heating season and 2000-2001 heating season with the new system shows that the county was provided with some rather dramatic energy cost savings with the new system.

Degree-days are commonly used as an approximate measure of the intensity of a heating season. The daily high and low temperatures are averaged and subtracted from 65 Deg.F. The a day with a low temperature of 0 Deg.F. and a high temperature of 20 Deg.F. would have an average daily temperature of 10 Deg.F., resulting in 55 degree-days. The daily degree-days for a heating season are combined into a total, which allows comparison of energy usage between heating seasons. Although the degree-day method is not perfect

(hourly temperature readings are more accurate; calculation does not take wind into account), it is still relatively accurate.

Degree-days from the weather station in Britton, SD are used for this analysis. The 1999-2000 heating season had 7707 degree-days. The 2000-2001 heating season had 9535 degree days, 25% higher than the previous year.

During the 1999-2000 heating season, the courthouse building used 8,356 gallons of propane at a cost of $4,094.00. During the 2000-2001 heating season the courthouse building used 6,212 gallons of propane at a cost of $4,880.00.

The table below indicates the savings experienced by the County:

1999-2000 Heating Season	1.085 gallons of propane per degree-day.	$ .49 per gal.
2000-2001 Heating Season	.650 gallons of propane per degree-day.	$ .79 per gal.

If the old heating system was projected into the 2000-2001 heating season, the courthouse building would have used 10,350 gallons of propane at a cost to the County of $8,175. The County saved approximately $3,300 in heating costs during the 2000-2001 heating season.

RECOMMENDATIONS

The new ductwork systems for the courthouse were designed to minimum system sounds through relatively low velocities in the duct system. As previously stated, both supply air outlets and return air inlets are located in the ceiling. The style of furnaces installed in the building typically have a number of fan speeds. Cooling is typically allocated the highest speed for the greatest volume of air with heating allocated one of the lower speed and subsequent lower airflow. If the lower airflow has insufficient velocities to deliver the air to near floor level, the air in the space will stratify, resulting in significantly higher temperatures near the ceiling than the floor.

If the County Administration has had complaints about "cold" floors, this engineer would recommend removing two of the ceiling tiles in the space, replacing the tiles with eggcrate grilles, and installing an economical paddle blade ceiling fan in the ceiling cavity above the eggcrate grilles. The paddle fans would insure that the air within the space maintains a relatively even temperature between floor and ceiling. The cost per space would be relatively inexpensive; depending upon the cost of the ceiling fan, an installation could be completed and wired for less than $250.00 per location.

1973 ADDITION

The building was originally designed with two furnace systems, one serving the upper level and one serving the lower level. Within the past few years, both original furnaces have been replaced with high-efficiency condensing furnaces. The furnaces are even more efficient than those in the courthouse in that they are equipped with two speed venting, maximizing the efficiency of the furnace.

ENERGY USAGE

A review of the energy usage for the 1973 addition indicates an anomaly in the energy usage of this part of the building.

During the 1999-2000 heating season, the 1973 addition used 2,270 gallons of propane at a cost of $2,993.00. During the 2000-2001 heating season the 1973 addition used 3,405 gallons of propane at a cost of $4,285.00.

Using the same values of 7707 and 9535 degree days used for the courthouse building, yields the following:

1999-2000 Heating Season	.29 gallons of propane per degree-day.	$ 1.32 per gal.
2000-2001 Heating Season	.36 gallons of propane per degree-day.	$ 1.26 per gal.

As can be seen, the propane consumption per degree-day actually rose during the 2001-2002 heating season. These values indicate that the 1973 additions system in the 2000-2001 heating season theoretically consumed 670 gallons of propane more than would have been expected based upon 1999-2000 heating season consumption.

There could be a number of reasons for the increased consumption per degree-day, including:

1. More usage of the emergency generator during last year's heating season. One or two extra fills of the bottle serving the generator could account for the difference.
2. Removal of equipment contributing internal heat gain. Lights, people, and equipment all add heat to a space, and the space is occupied 24 hours per day, seven days a week. If older radios, computers, or other similar equipment was replaced with new equipment, the lower energy consumption of the new equipment would result in less "free" heat delivered to the space.

If there is no obvious answer to the increased energy consumption, the County may wish to have a qualified serviceman inspect the two furnaces. Any failed controller within either of the furnaces may explain the extra energy consumption.

RECOMMENDATIONS

Because of purchases of propane by the 1973 addition represent significantly smaller quantities of gas than the courthouse building's bulk tank system, the cost per gallon for the 1973 addition is significantly higher. The 1973 addition paid $.47 more per gallon than the courthouse last year. Had the propane been included in the County's bulk purchase, the County would have saved $1600.

Including the 1973 addition in the bulk propane system will probably require an additional bulk propane bottle plus piping of the system to the existing propane distribution system for the 1973 addition. The County will have to weigh these costs against the potential savings of common bulk purchases.

DATA

The data used is the energy analysis is available from Janet Raguse, County Coordinator and from the North Dakota Weather Data site: http://www.ext.nodak.edu/weather/

ELECTRICAL POWER AND DISTRIBUTION SYSTEMS

This Engineer was quite impressed with the overall quality of the electrical distribution system for the courthouse and 1973 addition. My office has been involved in a number of courthouse remodelings and Americans with Disabilities Act improvements. While most of the buildings had relatively new services, many of these courthouses had panelboards and wiring dating to the original construction of the building.

The equipment reviewed in the building was new enough that replacement components are still readily available.

The building is provided with a 600 ampere, 208 volt, three phase electrical service which was probably installed when the elevator was installed in the building. At the electrical entrance to the building, power is distributed to six electrical panel systems through individual circuit breakers under the six-tap rule. The National Electric Code allows up to six individual subsystems to be served with individual circuit breakers without a main breaker. These six breakers serve electrical panels for the lower level, upper level, courtroom and related areas, sheriff's office, and the jail and courthouse area, with the sixth breaker added to serve the air conditioning system installed in 2000.

The service has adequate capacity for increased electrical consumption within the building but not for any significant additions to the building. The existing electrical panels will accept additional circuits, however, the addition of any new electrical panels or equipment with large loads will not only require a dedicated circuit breaker but the addition of a 600 ampere main breaker because the six-tap rule has been exceeded.

LIGHTING SYSTEMS

The building is provided with little incandescent lighting; efficient fluorescent lighting is installed in those areas of the building which are occupied by staff or open to the public. This engineer has no recommendations for improvements in lighting efficiency or operation in the building which would result in dramatic cost savings although small savings are possible.

Emergency lighting batteries with dual lamps are provided throughout the building, but this engineer questions whether the level of illumination from these devices meet the requirements of current building codes. Said codes mandate a continuous level of lighting of one foot-candle throughout the corridors of the building for 90 minutes. With the style of emergency lighting batteries used, a spacing of approximately 20'-0" to 30'-0" between units is required; this spacing is lacking in some areas of the building. The emergency lighting is also required to be maintained at the one foot-candle level at all corners, stair landings, etc. Exit signs are also required to be illuminated, either externally or through an

internal battery-powered lamp. These conditions were not met in some areas of the building.

RENOVATION/RESTORATION vs NEW CONSTRUCTION

The purpose of this study is to compare the cost of renovation/restoration of the existing Courthouse/County Office/Law Enforcement complex to cost of building a new Courthouse/County Office/County Law Enforcement Center. For purposes of this analysis a new building will be assumed to have a useful life of 50 years. The following analysis of renovation/restoration of the existing building complex is to make the building comply with the current building code and to extend the life expectancy of the building an additional 50 years to be comparable to new construction. Costs will be addressed in the next section of this study.

STRUCTURAL SYSTEM STABILIZATION

Movement has occurred in the stone foundation system in the east wall of the 1891 building and at the corners of the old jail. To stop further movement the foundation system, the old stone foundation must be removed in the areas of failure and replaced with a new poured concrete footings and foundation.

Since our suggested repair to the finish on the exterior masonry walls is to cover the wall surface with an insulation/acrylic stucco system and all that will be necessary to do the brick walls is to replace loose brick and stabilize the cracking/movement in the walls and remove loose brick faces.

The roof framing system of the high roof of the 1891/1928 has already been reinforced. Both the old 1891 jail and the 1973 addition have sags in the framing system which need to be repaired. The decks on both roofs will have to be removed and new rafters installed along side the rafters which have failed.

EXTERIOR WALLS AND ROOFS

To improve the visual appearance of the building complex and to meet the requirements of the Minnesota State Energy Code, we suggest covering over the exterior brick wall surfaces with rigid insulation and acrylic stucco commonly known as Dryvit or EFIS. Because this wall finish system includes insulation, there is a return on the investment through energy conservation and it is relatively maintenance free.

Some of the wood soffits are rotted out and old metal trim is rusty. It is suggested that the wood soffits be covered with prepainted metal. The roof edge metal should also be replaced with prepainted metal.

All of the roofs need to be replaced. The 1891/1928 building has shingles, the 1939 addition has an EPDM rubber roof and the 1973 building has a built-up asphalt and gravel roof. When replacing the roofs on the 1939 addition and the 1973 addition insulation should be added to the roof to meet the requirements of the Minnesota Energy Code.

The existing windows should be removed and replaced with new energy efficient windows.

The front canopy and front step should be replaced with new construction compatible to the new facade.

To meet the requirements of the building code, a second enclosed stair from the second floor will be required to replace the present open exterior fire escape stair. In all likelihood, due to space limitations within the building a new stair tower must be constructed adjacent to the building.

INTERIOR RENOVATION

The interior of the ground floor of the 1891/1928/1939 building/additions will need to be nearly gutted to get all the old combustible finishes out and to allow for the installation of fire protection over the wood framing system to achieve the necessary fire rating required by the Minnesota State Building Code. It will be nearly impossible to change the first floor plan layout because many of the walls are load bearing. The second floor was remodeled in 1985; however, extensive renovation will be necessary to provide fire protection over the wood framing system and to achieve the fire rating in the exits required by the building code. A new enclosed exit stair from the second floor must constructed to replace the present open fire escape. Due to lack of space within the building, a new stair tower will have to be added outside the building.

In order to achieve the fire rating required by the building code and to provide adequate protection for the valuable records kept in the building, an automatic building sprinkler system should be installed.

It is unknown to this writer if there is asbestos in the building; however, it is a cost item that must be considered in both renovation and demolition.

The 1973 addition is basically in compliance with the building code. The basement foundation walls need to be dug out and exposed for installation of a new membrane foundation waterproofing which is needed to correct the water infiltration problem which is occurring in the basement. To correct the problem of the of the corridors becoming cold from air infiltration in the winter because there are only single entrance doors, new vestibules need to be added on the exterior of the building with new entrance doors. This work can be done in conjunction with the foundation repair.

To accommodate additional departmental space needs, a new two story addition will be required. Logically, the new addition should be on the north end of the building where the old jail now stands. To meet requirements of the building code, the new addition will be of fire resistive concrete and steel construction.

NEW CONSTRUCTION BASED UPON ENERGY CONSUMPTION

Selected members of the County Commission requested an opinion as to whether the cost savings of contemporary energy standards of a new building would justify the construction of such a new building. Based on the assumption that the County Sheriff purchased its fuel at the same cost as the courthouse, the County would have spent approximately $7600 in propane costs during the 2000-2001 heating season. Even the assumption of a 75% savings in energy costs would only yield $5600 annually which would add little to the payments for a new courthouse.

Even comparing the abandoned system toward new construction would only yield $8200 toward the payments for a new courthouse.

COST ANALYSIS RENOVATION/RESTORATION EXISTING COMPLEX

STRUCTURAL REPAIRS

Footing/Foundation Repair 1891 Building	$ 20,000.00
Foundation Waterproofing Repair 1973 Building	$ 8,500.00
Masonry Wall Repair	$ 15,000.00
Old Jail Roof Repair	$ 4,500.00
Law Enforcement Center Roof Repair	$ 6,500.00
Total	$ 54,500.00

EXTERIOR RENOVATION

Dryvit Insul. Wall Finish	$202,500.00
Windows and Entrance Doors	$ 40,000.00
Soffits and Trim	$ 12,850.00
Shingles 1891/1928 Building	$ 18,500.00
EPDM Rubber Roof 1939 Addition	$ 4,550.00
BUR Roofing 1973 Addition	$ 20,600.00
Total	$299,000.00

INTERIOR DEMOLITION & RENOVATION

Demolition 1891 Building/1928/1939 Additions	$ 25,000.00
First Floor Renovation 1891 Building/1928/1939 Additions	$152,000.00
Second Floor Renovation 1891 Building/1928 Addition	$ 95,750.00
New Enclosed Stair From 2nd Floor	$ 27,500.00
New Entrance Vestibules 1973 Addition	$ 12,500.00
New Canopy and Front Step	$ 20,000.00
New Building Sprinkler System	$ 20,000.00
1973 Addition Remodeling	$ 25,000.00
Mechanical System Modifications	$ 25,000.00
New Electrical Power Distribution & Lighting	$ 75,000.00
Total	$477,750.00

	TOTAL	$831,250.00
	10% Contingency	$ 85,125.00
TOTAL ANTICIPATED RENOVATION COST		$916,375.00

* The above estimated cost does not include any new additions to increase departmental space.
  Estimate does not include fixtures and furnishings.

ANALYSIS

The present complex has approximately 15,000 square feet of space. Dividing the square footage into the estimated probable cost to renovate the existing facility, the square foot cost for renovation is $61.10. The cost of construction shown herein is the cost to bring the building up to current building code standards and repairs needed to extend the life expectancy of the building another 50 years. No needed space has been gained and many of the inefficiencies that the building currently has, will remain.