# The College of St. Teresa

A Condition Evaluation of Eight Academic Buildings

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> Consultant's Report prepared for the State University Board

> > Telephone : 507 ·

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# **Lourdes Hall**

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- Executive Summary
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- OSHA, Building, and Fire Code Evaluation

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- Condition Evaluation

# EXECUTIVE SUMMARY

Lourdes Hall, the largest building on campus, is a residence hall, and houses related service functions including a kitchen and bakery, a dining hall, several meeting rooms and lounges, a swimming pool and storage areas.

Built in 1926, the building is nearly 500 feet long, and is arranged in a large C-shape with numerous smaller intermediate wings. In 1968, the kitchen was remodelled and air conditioned. Air handling equipment was placed in a sub-basement at the west end. A four-story building plus basement and sub-basements, Lourdes Hall encompasses about 216,400 gross square feet, including very large attics on and above the fourth floor, but not including the sub-basements. The residential capacity is about 600-700 students.

### ARCHITECTURAL SYSTEMS

The building's structural frame and foundation are of reinforced concrete. Exterior walls are of brick, and interior partitions are primarily of tile masonry with plaster finish. The roof is wood framed with clay tiles. Exterior windows are wood-framed, double hung units with subdivided single panes, and separate storms and screens. Floors are primarily of terrazzo or ceramic tile, and ceilings are of plaster or suspended acoustical tile. Doors are hollow metal with air transfer grills.

The basic architectural components of Lourdes Hall are primarily in good condition. A major exception would be the windows, which require painting and caulking and a degree of repair. The decision of whether or not to replace the windows is a difficult one, especially because there are so many of them. Painting costs for the exterior of the windows are estimated at \$50 to \$70 thousand dollars, with replacement being around ten times that. Though no energy audit has been conducted, we feel that the increase in energy savings, coupled with the reduced maintenance costs argue for replacing the windows, and we have included replacement costs as optional.

Interior painting is another area that could amount to a large investment, simply because of the size of the building - we estimate that there are around 450,000 square feet of wall surface in the building. While most of the interior paint is intact, a certain percentage is peeling, and much is dirty or stained. We have included costs for painting about 10% of the building.

### **ELEVATOR**

The elevator at Lourdes hall is original to the building, and is obsolete. Although it is currently operating, it does not meet code requirements for accessibility, or for operation, and the significant costs for its replacement have been included.

### MECHANICAL AND ELECTRICAL SYSTEMS

### HEATING, VENTILATING, & AIR CONDITIONING

Heat for Lourdes Hall is provided by a two-pipe, low pressure steam system utilizing cast iron radiators. Low pressure steam is supplied from the central power plant. Operable windows provide ventilation for most of the building. A few areas of the building, namely the dining hall, the kitchen, and the bakery, are served by air handling units.

These air handling units are equipped with both steam heating capabilities and cooling capabilities to provide ventilation and air conditioning. The cooling is provided by three water-cooled, reciprocating chillers. Well water is used for cooling the chillers. The swimming pool area also has a dedicated ventilation system to exhaust moisture-laden air; however, no make-up air unit exists.

### PLUMBING

Most of the plumbing systems for this building date to the original installation, with the exception of the new fixtures and equipment in the kitchen and bakery. Domestic hot water is generated in the power plant and piped to the buildings. The plumbing systems appear to be in good working order; however, most of the stures and water controls are antiquated and not in compliance with today's accepted standards. The shower

controls in the toilet rooms, for example, should be replaced with new controls. None of the toilet rooms are accessible to handicapped persons.

There is no sprinkler system in the building. A firesafety standpipe system is installed, but it has not been used or tested for some time and its condition is dubious.

#### ELECTRICAL

The underground primary electric service enters a pad transformer at the north part of the building, and also enters a unit substation in the south part of the building. The primary service and electric service equipment appear to be in good condition. Except for the Food Service area which is in good condition, the electrical distribution system dates to the original installation, and needs to be replaced. There is a noticeable shortage of circuits and convenience outlets.

Lighting in the Food Service area looks to be in good condition. Elsewhere, most lighting fixtures are original, antiquated, and provide less than the desired illumination levels. Most fixtures should be replaced. There are no emergency lighting fixtures or standby power.

Communications systems appear to be in good condition; except that, the condition of the clock and paging systems is skeptical. The fire alarm system is in good condition; however, it is not totally in compliance with present day codes.

### FOOD SERVICE

The Food Service Area is spacious and was supplied with excellent equipment. However, the majority of the equipment is now 20 years old and some must be replaced in order to meet safe health standards. The costs for this replacement are relatively significant.

### **BUILDING AND FIRE CODE REQUIREMENTS**

This is a major concern for this building. The lack of corridor protection, open stairwells and unprotected vertical shafts, dead-end corridors, and assembly areas with only one exit are among the long list of deficiencies prepared by the fire marshall. Installing an automatic sprinkler system appears to be the only way of resolving the major issues, along with a variety of other modifications.

#### **OSHA REQUIREMENTS**

Most of the items included in the report from OSHA official Tom Vossberg were also listed in Code or Condition Evaluations. The remaining items are relatively minor, at least in terms of renovation costs.

#### **ASBESTOS AND PCBS**

Like most buildings of this era, Lourdes Hall appears to be constructed with asbestos-containing materials. The obvious suspect materials are pipe and pipefitting insulation for both HVAC and plumbing systems, floor tile and electrical wiring. There are other materials which may contain asbestos; however qualified testing is required to determine such.

Of these materials, the only one which is considered to be friable is pipe and pipefitting insulation. For the most part, this insulation is in good condition; however, some areas are damaged and should be repaired to prevent exposure to the asbestos. The floor tile and electrical wiring are not friable and do not pose an immediate health hazard. These materials will provide complications and additional expense when remodeling is contemplated in the future. See the appendix on asbestos for more detailed information regarding these materials.

PCB's are present in some of the transformers on the St. Teresa Campus. These transformers have been surveyed by the local power company to determine if PCB's are present and those containing PCB's have been so labeled. Other materials, such as lighting fixture ballasts, may contain PCB's and may be present in these buildings. See the appendix regarding PCB's for more detailed information.

### SUMMARY

#### CONDITION SUMMARY

While the basic architectural components of Lourdes Hall are sound, it has significant problems relating to life-safety in terms of its exiting system and fire protection system. In addition, the electrical system and elevator are antiquated, and the windows may need to be replaced in the near future.

#### **COST SUMMARY**

Please refer to the following Cost Estimate section for a description of the condition rating system. Costs shown here with the note "opt." are for categories that include items that are optional in some way. (For example, they are for components which should be tested before they are replaced; or they are code items that are not technically required, but are strongly recommended; or they are items that should be considered for replacement based on energy considerations.) The specific items within each category that are optional are also shown with the note "opt." in the Cost Estimate. Total A, below, includes all optional items, while Total B does not.

### Condition

	3	4	5	
Building & Fire Code Requirements	\$43,450 opt.	\$365,300 opt.	\$191,250	\$600,000 opt.
OSHA Regulrements	\$0	\$400	\$375	\$775
Part A - Primary Structure	\$620,700 opt.	\$0	\$0	\$620,700 opt.
Part B - Exterior Finishes	\$3,400	\$0	\$0	\$3,400
Part C - Interior Finishes	\$32,250	\$0	÷ \$0	\$32,250
Part D - Elevators	\$0	\$0	\$80,000	\$80,000
Part E - Roofing	\$2,200	\$0	\$0	\$2,200
Part F - HVAC	\$142,000	\$0	\$0	\$142,000
Part G - Plumbing	\$40,000	\$35,000	\$0	\$75,000
Part H - Electrical	\$8,500	\$192,000	\$0	\$200,500
Part I - Energy Efficiency	\$-	\$-	\$-	\$231,000 opt.
Part J - Accessibility	\$1,000	\$55,000	\$0	56,000
Park K - Grounds	\$3,700	\$0	\$0	\$3,700
Part L - Food Service	\$49,200	\$43,100	\$36,860	\$129,160
TOTAL A (Optional items included)	\$946,400	\$690,800	\$308,485	\$2,176,685
TOTAL B (Optional items not include	d) \$397,900	\$639,900	\$308,485	\$1,346,285

CONTINGENCY: Because of the preliminary nature of this study, a reasonable allowance should be included for estimating and construction contingencies. The American Institute of Architects recommends that at the early stages of a project, the contingency allowance should be between 10% and 20%.

HAZARDOUS MATERIALS: Because testing for hazardous materials was not included in the scope of this report, their presence is not confirmed, but it is suspected in a number of locations. Preliminary costs for abatement of asbestos are included in Chapter 9 and for this building range from \$30,000 for "Minimal" abatement to \$75,000 for "Total" abatement. Additional costs may be incurred relating to PCBs, but it is beyond the scope of this project to determine them.

### COST ESTIMATE

With the "Condition Evaluation" section of this chapter each building component has been rated on a 1 to 5 scale indicating its physical condition and urgency of its repair. This section summarizes the costs associated with components that should be repaired, replaced, or renovated within three years, and that received condition or code-compliance ratings of 3, 4, or 5 as follows:

3 (Fair): Component likely to require repair, replacement, or renovation within a three year period and/or marginally meets code and accessibility standards.

4 (Poor): Component requires repair, replacement, or renovation immediately and/or does not even minimally meet code and accessibility standards.

5 (Unsatisfactory): Component poses imminent or previously identified life-safety hazards and/or requires emergency repairs and/or is part of a building that should be vacated or razed

Code and OSHA items are listed first, and refer to reports by Fire Marshall Ed Krall, and OSHA official Tom Vossberg, included in the following chapter. The rating of these items as a 3, 4, or 5 is based on conversations with these officials, but does not represent their official position. Both have indicated a willingness to work with a potential buyer in establishing a program for correcting the deficiencies over time.

Costs shown here with the note "opt." are for items that are optional in some way. (For example, they are for components which should be tested before they are replaced; or they are code items that are not technically required, but are strongly recommended; or they are items that should be be considered for replacement based on energy considerations.)

Costs were obtained from a variety of sources, primarily from the Means Cost Estimating Guides, and from contractors and materials suppliers, and represent 1988 costs. As stated before, these estimates are preliminary, and represent only the general magnitude of costs involved. The intent is to provide background information, and to identify especially any areas in extremely bad or unsafe condition. While every attempt has been made to be thorough, complete, and accurate, we cannot guarantee that actual costs incurred for any specific item will be the same as those estimated here.

### COST ESTIMATE

### **BUILDING AND FIRE CODE EVALUATION ESTIMATE**

### Condition

		3	4	5	
•	Item 1 -Enclosure of vertical shafts	\$3,500 opt.	\$300,000	\$0	
•	Item 2 - Corridor protection	0	22,500	opt. 0	
•	Item 3 -Emergency lighting	0	0	44,000	
•	Item 4 -Panic hardware	3,500	0	0	
•	Item 5 -Swing of exit doors	200	0	0	
•	Item 6 -Replace glass at some first floor do	ors 1650	0	0	
•	Item 7 -Insufficient exits at assembly areas	7,700	0	0	
•	Item 8 -Fire rating of ceiling tiles	0	28,400	opt. 0	
•	Item 9 -Dead end corridors	0	14,400	. 0	
•	Item 10 -Standpipe system	0	0	57,500	
•	Item 11 -Fire protection of cooking equipm	ent 0	0	45,000	
	Item 12 -Combustible storage in attics	0	0	0	
•	Item 13 -Hazardous kitchenettes	0	0	1,250	
•	Item 14 -Ground floor storage area	9,800	· <b>0</b> ·	0	
•	Item 15 -Fire alarm system	0	0	43,500	
•	Item 16 -Glass doors in residential areas	1,000	0	0	
•	Item 17 -Lighting protection	11,500	0	0	
•	Item 18 -Occupancy separation	3,900	0	0	
	Item 19 -Stairway Identification	600	0	0	
•	Item 20 -Premises identification	100	0	0	
SUE	TOTAL	\$43,450	\$365,300	\$191,250	\$600,000

### **OSHA EVALUATION ESTIMATE**

		Non-Serious	Serious	
•	Item: 2: Exposed live electrical connections	\$0	<b>\$</b> 0	
•	Item 3: Protection from rotaiting equipment	0	125	
•	Item 5: Unprotected light bulbs	0	250	
•	Item 13: Emergency lighting	0	0	
•	Item 14: Exit signs not illuminated	0	0	
•	Item 16: Lack of guard at garbage disposal	100	0	
•	Item 17: Unprotected hole in attic floor	300	0	
SUE	BTOTAL	\$400	\$375	\$775

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### CONDITION EVALUATION ESTIMATE

		Conditio	n	
PART A - PRIMARY STRUCTURE	3	4	5	
A-1 Foundations	\$0	\$0	\$0	
• A-2 Exterior Walls	200	0 0	0	
• A-3 Interior Walls	250	0	Ō	
A-4 Floor System	0	0	0	
A-5 Cellings	250	0	0	
<ul> <li>A-6 Exterior Windows</li> </ul>	620,000 opt.	0	0	
• A-7 Stairways	0	0	_0	
SUBTOTAL	\$620,700	\$0	\$0	\$620,700
PART B- EXTERIOR FINISHES	3	4	5	
B-1 Foundations	\$400	\$0	\$0	
B-2 Exterior Walls	3000	Õ	0 0	
B-3 Exterior Trim Finish	0	Õ	0	
B-4 Caulking	Ō	Ō	0	
SUBTOTAL	\$3400	\$0	\$0	\$3,400
	,			
PART C- INTERIOR FINISHES	3	4	5	
C-1 Wall Finishes	\$20250	<b>\$0</b>	\$0	
C-2 Doors/Frames	500	0	0	
C-3 Floor Finishes	2400	0	0	
C-4 Ceiling Finishes	9100	0	0	
C-5 Equipment & Casework	0	0	0	
SUBTOTAL	\$ 32,250	\$0	\$0	\$32,250
PART D- ELEVATORS	3	4	5	
	*0	¢0	¢00.000	
• D-1 Replace elevator	\$0	\$0	\$00,000	000 000
SUBTOTAL	<b>\$</b> 0	\$U	\$80,000	\$80,000
PART E- ROOF	3	4	5	
E-1 Roofing Membrane	\$0	\$0	\$0	
• E-2 Flashing	0	0	0	
• E-3 Solfits	0	0	0	
• E-4 Fascla	2200	0	0	
E-5 Drains & Drainage	0	0	0	
E-6 Exterior Drains	0	_0	_0	
SUBTOTAL	\$2200	<b>\$</b> 0	\$0	\$2,200

COST ESTIMATE

### Condition

PART F	- HVAC	3	4	5	
<ul> <li>F-1</li> <li>F-2</li> <li>F-3</li> <li>F-4</li> <li>F-5</li> <li>F-6</li> <li>F-7</li> <li>F-8</li> </ul>	Energy Management System Temperature Control System Piping Insulation Duct Insulation Air Handling Equipment Air Conditioning Equipment Exhaust Fans and Equipment Steam Heating Equipment	60,000 5,000  2,000 <u>75,000</u>	    	    	
SUBTO	TAL	\$142,000	\$0	\$0	\$142,000
PART C	G - PLUMBING	3	4	5	
<ul> <li>G-1</li> <li>G-2</li> <li>G-3</li> <li>G-4</li> <li>G-5</li> <li>G-6</li> <li>G-7</li> <li>G-8</li> <li>G-9</li> </ul>	Fixtures and Trim Domestic Water Piping & Equipment Fire Sprinkler System Water Supply Treatment Equipment Medical/Laboratory Gases Domestic Waste Piping & Equipment Pipe Insulation Handicapped Accessibility Swimming pool equipment	15,000  (SEE SECT  5,000  20,000	 FION ON CODI   35,000 	 E COMPLIA     	NCE)
SUBTO	TAL	\$40,000	\$35,000	\$0	\$75,000
PART H	I - ELECTRICAL	3	4	5	
<ul> <li>H-1</li> <li>H-2</li> <li>H-3</li> <li>H-4</li> <li>H-5</li> <li>H-6</li> <li>H-7</li> <li>H-8</li> </ul>	Primary Service Electric Service Equipment Electrical Distribution System Lighting Standby Emergency Lighting Communications Systems Alarm Systems Lightning Protection system	 (SEE SECT 8,500 (SEE SECT	 128,000 64,000 FION ON CODE TION ON CODE	  E COMPLIA  E COMPLIA 	NCE) NCE)
SUBTO	TAL	\$8,500	\$192,000	\$0	\$200,500

### **PART I - ENERGY EFFICIENCY**

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<ul> <li>I-1 Energy Managment System</li> <li>I-2 Automatic Control Valves</li> <li>I-3 Swimming Pool Cover</li> <li>I-4-I-7 Architectural Items</li> </ul>		\$75,000-150,000 o 55.000-160,000 o 10,000-12,000 o		
SUBTUTAL			$\Psi \Gamma \Psi 0$	000-9022,000
PART J - HANDICAP ACCESSIBILITY	3	4	5	
J-1 Entrance accessibility	\$0	\$50,000	\$0	
J-2 Vertical circulation (See Part D)	0	0	0	
<ul> <li>J-3 Toilets/rest rooms</li> </ul>	0	5,000	0	
• J-4 Misc. provisions	1.000	0	Q	
SUBTOTAL	\$1,000	\$55,000	\$0	\$56,000
PART K - GROUNDS	3	4	5	
K-1 Sidewalks/Steps	\$3,000	\$0	\$0	
<ul> <li>K-2 Roadways N.A.</li> </ul>	0	0	0	
K-3 Parking Lots N.A.	0	0	0	
<ul> <li>K-4 Trees, Shrubs, Lawns</li> </ul>	200	0	0	
<ul> <li>K-5 Lawn SprinklersN.A.</li> </ul>	0	0	0	
<ul> <li>K-6 Drainage</li> </ul>	500	0	0	•
SUBTOTAL	\$3,700	\$0	\$0	\$3,700
PART L - FOOD SERVICE	3	4	5	
<ul> <li>L-1 Bakery</li> </ul>	\$21,000	\$8,000	\$7,500	
L-2 Freezer and Coolers	0	20,000	0	
L-3 Salad Area	0	0	60	
<ul> <li>L-4 Dish Room and Pot Room</li> </ul>	1,000	2,600	100	
<ul> <li>L-5 Preparation Kitchen</li> </ul>	27,000	11,500	29,200	
L-6 Servery	200		0	<b>*</b> · · · · · · · ·
SUBTOTAL	\$49,200	\$43,100	\$36,860	\$129,160
LOURDES HALL				
GRAND TOTAL A	\$946,500	\$690,800	\$308,485	\$2,176,685
GRAND TOTAL B	\$397,900	\$639,900	308,485	\$1,346,285

These figures do not include a contingency, nor do they include abatement of hazardous materials. Please refer to the Executive Summary for these items. Total A includes optional items, Total B does not.

### **BUILDING AND FIRE CODE EVALUATION**

The following is a copy of a report by Fire Marshall Ed Krall, listing code deficiencies of this building. As noted in the main introduction, Mr. Krall and Building Official Steve Carson accompanied Roger Nelson of Architectural Environments on a tour of the buildings of the College of St. Teresa, during November of 1988. Mr. Krall's report points out some of the deficiencies of the buildings in relation to the 1982 Minnesota Uniform Fire Code, which is the current fire code in the state, and which applies to all structures built before 1972.

After Mr. Krall's report, we have included an item-by-item response that identifies the corrective measure and estimates the cost associated with it. These costs are included above, in the cost estimate.

LETTER FROM ED KRALL, WINONA FIRE MARSHALL

#### LOURDES HALL - Occupancy R-1

Lourdes Hall is a dormitory with a place of assembly on the ground floor. It is my understanding that it was constructed around 1929 and is approximately 500 feet in length and 4 stories in height. Due to its size and occupancy, this office has a definite concern for this structure.

The structure is basically noncombustible construction. However, the roof assembly is wood plus some corridor walls on the fourth floor were constructed of wood.

There are exiting problems with Lourdes Hall in the form of open stairways, deadend corridors and lack of corridor protection.

Some of the code problems noted on November 18, 1988, are as follows:

<u>Item 1</u> - M.U.F.C. Appendix 1-A, 3. - Interior vertical shafts, including but not limited to stairways, elevator hoistways, service and utility shafts, shall be enclosed by the proper fire rated construction.

Most of the stairways in this structure were enclosed over the years. Some were enclosed with wire glass in steel frames. However, the doors have no latching devices. They are simply push pull. Approved panic hardware is required.

There are some open stairways remaining in the north end of the structure near the ground floor and first floor.

Remove window and seal with noncombustible construction between south attic and south stairwell.

Furthermore, there are open pipe chases from the basement to attic which must be sealed off.

Some of the stairways represent difficulties in enclosing them and would be dealt with on an individual basis.

This is a top priority item.

The code does allow the open stairways if the structure is protected by an approved sprinkler system.

LETTER FROM ED KRALL, WINONA FIRE MARSHALL

<u>Item 2</u> - M.U.F.C. Appendix 1-A, 2(c) - Corridors of Group R, Division 1 Occupancies in <u>existing</u> structures serving an occupant load of 30 or more shall be protected by not less than one-hour fire resistive construction.

The existing construction appears to be adequate.

The doors are required to be 20 minute assemblies.

The existing doors & frames would be allowed provided that:

- A) <u>All</u> doors are equipped with self-closing devices (a large portion of them are already self-closing); and
- B) The doors are altered to prevent the passage of smoke. The doors have air transfer grills that have been closed but do permit the passage of smoke. Also, smoke gasketing would be required.

This is a top priority item.

There is an exception to the code for sprinklered structures.

<u>Item 3</u> - M.U.F.C. Sec. 12.113(b)2.(D) - An emergency lighting system is required for all exit systems and places of assembly.

This is an outstanding order against the structure and is a top priority item.

<u>Item 4</u> - M.U.F.C. Sec. 25.106 - Panic type hardware is required out of all places of assembly (50 or more occupants). Some areas noted on the 18th needing panic hardware are the dining room and first floor lounges.

<u>Item 5</u> - M.U.F.C. Sec. 25.106 - The exit doors in the first floor lounges are required to swing in the direction of egress.

<u>Item 6</u> - Some first floor doors do not meet the requirements for corridor protection as cited in Item 1. These doors are all glass. To remedy the situation replace the existing glass with fire rated wire glass plus door closers.

Item 7 - N.F.P.A. 101, 9-2.4.3 - There were some places of assembly with an insufficient number of exits, such as the 4th floor lounge and ground floor multi-purpose room.

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<u>Item 8</u> - N.F.P.A. 101, 17-3.3.1 - The interior finish in exitways shall be Class A or B. The concern is the ceiling tiles.

In a sprinklered structure Class C finish is permissible.

<u>Item 9</u> - M.U.F.C. Sec. 12.105(e) - When more than one exit is required, they shall be so arranged that it is possible to go in either direction from any point in a corridor to a separate exit, except for dead ends not exceeding 20 feet in length.

There are numerous deadend corridors in excess of 20 feet in this structure.

NFPA 101, 17-2.5.2 does allow a deadend corridor for 35 ft. The MUFC would take precedent over NFPA 101 in this situation. However, NFPA 101 is a nationally recognized standard.

Some of the dead ends have been converted into "suites" or "alcoves" of rooms. One of the "dead ends" paced off over 80 feet (north wing).

The construction of new stairways for each dead end corridor would likely prove to be cost prohibitive for this project. However, the situation would have to be addressed with a top priority.

<u>Item 10</u> - M.U.F.C. Sec. 10.312 and Sec. 10.302 - Structures 3 or more stories in height are required to have standpipes. The existing standpipe system is strictly off of domestic water and its reliability is doubtful.

A Class III standpipe system is required. This is an outstanding order against this structure.

This office is willing to look at a proposed system prior to installation to ensure compliance.

Due to the size and occupancy of the structure this item is a priority item.

<u>Item 11</u> - M.U.F.C. Sec. 10.315 - The cooking appliances in the kitchen and bakery require fire protection systems. These systems shall be installed by contractors licensed by this office and meet current standards.

<u>Item 12</u> - M.U.F.C. Sec. 11.207 - This structure has a number of huge attics that presently contain combustible storage.

### LETTER FROM ED KRALL, WINONA FIRE MARSHALL

Combustible materials shall not be stored in attics unless walls, floor & ceiling forming the storage area are protected on the attic room side as required for one-hour, fire-resistive construction.

<u>Item 13</u> - There are numerous kitchenettes or lounges throughout the structure. These areas have carpeting on the walls plus gas stoves. The carpeting shall be removed. The stoves shall be removed or the area declared a "hazardous" area and a minimum one-hour, fire-resistive separation required.

<u>Item 14</u> - There is a large storage area on the ground floor of the south wing. This storage area is separated from the structure by non-rated construction. The proper construction is required.

<u>Item 15</u> - M.U.F.C. Sec. 10.307(a) - The existing fire alarm system does not meet current requirements. The existing system includes heat detection in the attic and selected areas plus the manual pull stations. It contains approximately 20 zones.

The system lacks smoke detection in corridors, heat detection in all storage, utility, assembly areas, etc., battery backup plus an annunciator panel.

The existing system only goes through one audible cycle and then resets itself. This problem is suppose to be remedied this month by Red Wing Service.

<u>Item 16</u> - The existing corridors in the residential areas are subdivided by glass doors in metal frames. It is recommended that the glass be replaced by wire glass and the doors be equipped with self-closing automatic release devices to help stop the spread of smoke and/or fire through the structure.

<u>Item 17</u> - On November 18 the topic of Lightening Protection was discussed. NFPA 78 covers this topic. If it is installed, it should comply with NFPA 78.

Item 18 - M.U.F.C. Appendix 1-A, 7 - An occupancy separation of one-hour is required between the place of assembly and the residential.

<u>Item 19</u> - M.U.F.C. Appendix 1-B - All stairways are required to be properly identified with <u>approved</u> signs indicating landing, lower termination point and location.

### **BUILDING AND FIRE CODE EVALUATION**

LETTER FROM ED KRALL, WINONA FIRE MARSHALL

<u>Item 20</u> - All buildings on the campus are required to have proper premises identification in accordance with both the MUFC and Winona City Code. Numbers are required to be no less than 4 inches in size.

Once again this report is not all inclusive but intended to assist you in your code analysis.

I would recommend protecting this structure with an approved automatic sprinkler system plus upgrading the alarm system in an attempt to overcome some of the life safety deficiencies.

Respectfully submitted,

Ed Krall

Ed Krall, Fire Marshal City of Winona

EK:sh

This section responds to the deficiencies listed in Fire Marshall Ed Krall's report, included above. A number of the deficiencies listed appear to require solutions that would be cost-prohibitive. However, the Fire Marshall has indicated a willingness to review alternative methods of complying with the intent, if not the strict interpretation of the code. It is possible that requirements to enclose vertical shafts (Item 1), modify doors to provide corridor protection (Item 2), and resolve dead-end corridor situations may be waived if the entire building is equipped with a sprinkler system. While the cost of such a system is high, we estimate that the cost of remedying these other deficiencies would be higher.

#### Item 1: Enclosure of vertical shafts.

Stairways - In many cases, the stairs open directly into a corridor, leaving no room to adequately enclose the stair.

According to Mr. Krall, the code allows vertical openings if the structure is protected by an approved sprinkler system. Since other deficiencies would also be resolved by sprinklering, we recommend this course.

> If the decision is made to provide a sprinkler system for the entire building, the cost will be \$300,000

For the purposes of this report, the system as estimated is a wet-type system, designed for a "Light Hazard" occupancy. External fire department connections will be provided as necessary. It is assumed that a new water service will be required to meet the demand of this proposed system.

Elevator hoistway - refer to elevator evaluation section

Scal piping chases at attic floor penetration. The piping chases will have their bulk area filled with concrete as best possible. The remaining open area will be sealed with an expandable fire-seal caulking or safing insulation. This item is not technically required, but is strongly recommended by the Fire Marshall. The cost for this work is \$3,000 - 4,000 opt.

#### Item 2: Corridor Protection.

This item is not technically required, but is strongly recommended by the Fire Marshall.

If doors are modified:

	Approx. 450 doors @ \$50	\$22,500 opt.
ltem 3:	<b>Emergency Lighting.</b> Install self-contained battery operated emer all places of assembly, and in all corridors, s	gency lighting units in tairways and other

means of egress. The cost for the work will be approximately \$44,000 Item 4: Panic hardware at places of assembly. \$3,500

Approx. 10 doors @\$350	•	
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5-16

ltem 5:	Swing of Exit Doors. Modify 4 doors @ \$50	\$ 200
ltem 6:	Replace glass at some first floor doors. Approx. 200 s.f. @ \$8.20	\$ 1650
Item 7:	Insufficient number of exits at assembly areas.	

Since the fourth floor lounge has a sloping ceiling and would be difficult to provide with two remote exits, we recommend either discontinuing its use as a place of assembly or reducing its size to less than 750 square feet, by constructing a wall at the end, and using the extra space as storage:

400 s.f. wall @ \$4.19	\$1700
400 s.i. wali @ 54.19	\$1700

The multi-purpose room and the swimming pool are ground floor assembly rooms with only one exit. A grade or partially below grade exit could be added to each room. This would entail cutting an opening and providing a lintel, adding an exit door, and possibly providing stairs to reach grade.

2 exit doors @ \$3000	\$ 6,000
2 CAR 40013 @ \$5000	$\Psi$ 0,000

#### Item 8:Fire rating of ceiling tiles.

Replacement not necessary if sprinklered. However, this is a recommendation of the Fire Marshall, and a dropped ceiling could be used to hide sprinkler pipes.

If replace tiles:

Approx. 20% of GSF = 43,000 s.f. @ .66 \$28,400 opt.

#### Item 9: Dead End Corridors.

This is a major item which has no easy solution. The building has seven dead end corridors which exceed the maximum 20' on both the 2nd and 3rd floors. Building seven stairways either within or attached to the building to remedy this problem would clearly be an expensive proposition.

Another option would be to reduce the length of the dead ends by creating suites of rooms at the ends of the corridors, as has been done in the "alcoves." However, the occupant load of such a suite cannot exceed 10 people, or the suite itself must have two exits. With an Occupant Load Factor of 50 square feet per person, the maximum size of a suite would be 500 square feet - an area about the size of four of the existing rooms, two on each side of the corridor.

Mr. Krall has indicated that if the building were sprinklered and had a fire detection system, his office would consider longer dead end corridors, and has stated that the NFPA allows dead end corridors of 35 feet. It appears that all but one of the dead ends could be modified so that a 500 square foot suite of rooms would be at the end of a 35 foot dead end corridor. The wing that contains the swimming pool would be the one exception.

We recommend that fire department approval for this approach be requested, along with providing a sprinkler system and a fire detection system to the building. For the wing that contains the swimming pool, we recommend that the last six or so rooms on both the second and third floors be discontinued as dorm rooms, until such time as an exit stair could be built at this wing.

Sprinkler system included under Item 1.

Construction to create suites \$14,400

#### Item 10: Standpipe system

The cost of a new firesafety standpipe system for this building is \$55,000 - 60,000

The system as estimated is a wet-type, Class III standpipe and firchose servic as classified by the National Fire Protection Association (NFPA), Chap. 14. For the purposes of this report, it is assumed that the existing system is not uscable and will be demolished.

#### Item 11: Fire protection of cooking equipment

The cost of a new fire protection system for the cooking equipment in the kitchen and bakery is \$40,000 - 50,000

The system as estimated is a Halon 1301 system installed in the canopies of the existing hoods complete with fuel cut-off interlocks. The system will be installed as per the National Fire Protection Association (NFPA), Chap. 12A.

### Item 12: Combustible storage in attics

We recommend that the attics be cleared of combustible storage until they can be protected with the proper construction. Such construction does not appear to be necessary within 3 years, so no costs are included.

#### Item 13: Hazardous kitchenettes

Remove carpcting and repaint walls

Approx. 1200 s.f. @ \$.56	\$ 700
Remove and cap off gas stoves	

Remove and cap on gas stores

The cost of removing the existing gas stoves, capping the gas piping at each kitchenette, and disconnecting the gas piping from the main gas supply (to prevent someone from removing the caps in the future) is \$ 500 - 600

#### Item 14: Ground floor storage area

Remove non-rated walls	
Approx. 2000 s.f. @ \$1.22	\$ 2,400
Replace with rated construction:	
Approx. 2000 s.f. @ \$3.69	\$ 7,400

#### Item 15: Fire alarm system

Because battery back-up for the system is required, it is appropriate to replace the present line voltage fire alarm control panel with a new low voltage control panel with battery back-up. Existing manual stations and heat detectors may remain; however, existing horns must be replaced. Smoke detectors must be installed 30 feet on center in corridors. Heat detectors will be provided (where missing) in all Storage, Utility and Assembly areas. Air annunciator panel will be provided where directed by the Fire Department. Automatic shut-down of ventilation fans is a part of the present system. If a sprinkler system is installed, that system will be tied into the fire alarm system Cost of updating the fire alarm system; approximately \$43,500

### Item 16: Glass doors in residential areas Replace glass with wire glass \$ 1,000 Approx. 120 s.f. @ \$8.20 Item 17: Lightning protection Lightning protection is not required by Code. If desired, the system \$11,500 opt. would cost approximately Item 18: Occupancy separation \$3,900 41 hr assemblies @ \$966 Item 19: Stairway identification \$600 30 Signs @ \$20 Item 20: Premises identification \$100 10 signs @ \$10

5-19

On November 16 and 17, 1988, OSHA Consultant Tom Vossberg accompanied Roger Nelson of Architectural Environments on a walk-through inspection of the campus of St. Teresa College. A copy of his report is included in the main introduction to this report. In this report, he lists 6 serious and 20 non-serious hazards that were discovered in various buildings on campus. Of those items, 7 apply to this building, as summarized below. Following each item is a recommended reponse, and the cost associated with it.

### **SERIOUS HAZARDS**

Item 2:	<b>Exposed live electrical connections</b> This item has been addressed in the condition evaluation sect	ion.
item 3:	Protection from rotating equipment Re-install existing or provide new belt guards for all equipme	nt
	which is not so equipped	\$125
ltem 5:	Unprotected light bulbs Replace all existing lighting fixtures not in compliance with cu OSHA requirements with new lighting fixtures. The new fixtu	irrent ircs
	will be protected with wire guards.	\$250
NON-i	SERIOUS HAZARDS : Emergency lighting This item has been addressed in the response to the Code Evaluation.	
ltem 14	I: Exit signs not illuminated This item has been addressed in the response to the Code Evaluation.	
item 16	Exact of guard at garbage disposal Install guard	\$100

### Item 17: Unprotected hole in attic floor Patch hole with concrete

\$300

### **CONDITION EVALUATION**

Using a format developed by the Minnesota Department of Finance, this section identifies the major components and systems of the building, and evaluates their physical condition by rating them on a scale of 1 to 5, as follows:

1 (Excellent) - Component requires no major repairs or renovation within the next ten years and/or fully meets code and accessibility requirements.

2 (Good) - Component likely to require repair, renovation or replacement within three to ten years and/or substantially meets code and accessibility requirements.

3 (Fair) - Component likely to require repair, replacement, or renovation within a three year period and/or marginally meets code and accessibility requirements.

4 (Poor) - Component requires repair, replacement, or renovation immediately and/or does not even minimally meet code and accessibility standards.

5 (Unsatisfactory) - Component poses imminent or previously identified life-safety hazards and/or requires emergency repairs and/or is part of a building that should be vacated or razed.

When more than one material is found for a given component (for instance if both painted plaster and acoustical tile ceilings occur), we estimate the percentage of each material (say 20% plaster and 80% tile). And when the condition of a material varies, we estimate how much of it is in which condition (of the 20% which is plaster, 10% is excellent and 10% is poor).

It should be noted that if a component is in good physical condition, but needs to be modified to comply with code, we do *not* give it a lower score here, but instead refer it to the code evaluation section. Similarly, energy efficiency and handicap accessibility are treated separately, but they are included within this Condition Evaluation section.

Part A - Primary Structure							
	Percentage	!	С	onditio	n		
A-1 FOUNDATIONS		1	2	3	4	5	
Concrete     Remarks:	100%	100%					
A-2 EXTERIOR WALLS/COLUMNS		1	2	3	4	5	
• Brick Remarks: See B-2 for tuckpointing. *Some damage a root cellar (currently bike storage) at the ground floor of wall and damaged the plaster. Some rusting of the steel investigated further.	100% was noted at of the south w lintel was also	100% the lintel ing. Evid c noted a	over the lently wa Ind this s	opening ter has e hould be	* J leading t entered the	to ne	
A-3 INTERIOR WALLS/PARTITIONS		1	2	3	4	5	
<ul> <li>Tile - Masonry with Plaster</li> <li>Wood Stud Partitions</li> </ul>	99% 1%	99%		** *1%			
Remarks: *Miscellaneous wood framed partitions do n their removal and replacement is included under the Co plaster cracks should be repaired.	ot meet code de Evaluation	requirem , above.	ients, and ** Misco	d ellaneou	ıs minor		
A-4 FLOOR SYSTEM		1	2	3	4	5	
• Reinforced Concrete Remarks: *Cracks were noted in the ground floor slab a monitored and/or investigated further. No costs are inclu the bottom and side curbs of the swimming pool. Accord recent leaking or problems related to the cracks, but the	at south wing uded for their ding to mainte y should be m	99% storage a repair. <i>F</i> anance st ionitored	area. The Also, crac aff, there for future	*1% ese shou ks were has be e moven	uld be e noted at en no nent.		
A-5 CEILINGS		1	2	3	4	5	
Plaster - Most Rooms	80%	80%		*			
Acoustical file - Corridors     Remarks : * Miscellaneous minor plaster cracks should     flame-spread ratings required by code. Replacement co	20% I be repaired. sts are include	Acoustic ed in the	cal tiles n Code Ev	nay not i valuatior	20% meet 1, above.		
A-6 EXTERIOR WINDOWS		1	2	3	4	5	
<ul> <li>Single Glazed, Wood Double Hung Units 100%</li> <li>Remarks: The building has about 750 windows. Windows have not been maintained, and badly need paint, glazing putty, and a certain amount of repair. Separate screens are in especially bad shapo. Costs for refurbishing and repainting all windows and screens are estimated to run as high as \$50,000 - \$75,000, and the owner would be faced with repeating the process every 10 years or so. Though initial costs would be considerably higher, replacing the windows with energy-efficient windows should be seriously considered, and we have included replacement in the cost estimate.</li> </ul>							
A-7 STAIRWAYS		1	2	3	4	5	
<ul> <li>Floors -Terrazzo</li> <li>Walls - Painted Plaster</li> <li>Ceilings - Painted Plaster</li> <li>Remarks: Stairway enclosures are addressed in the Coordinates</li> </ul>	100% 100% 100% Je Evaluation,	100% above.	100% 100%				

### Part B - Exterior Finishes

B-1 FOUNDATIONS		Percentage			Condition		
			1	2	3	4	5
•	Stone facing	100%	99%		1%		

**Remarks:** A number of stone panels at the south and west have chipped cut, possibly caused by heat stress.

<b>B</b> -	2 EXTERIOR WALLS		1	2	3	4.	5
•	Brick - Tuckpointing	100%	99%		1%		

Remarks:

### **B-3 EXTERIOR TRIM FINISH**

Remarks: See A-6 for exterior windows.

### **B-4 CAULKING**

**Remarks:** Caulking at windows and doors is hard but intact. Costs for replacing are included with window refurbishing or replacement.

**Ground Floor** 

		Percentage	Percentage			Condition			
C-	1 WALL FINISHES		1	2	3	4	5		
•	Painted Plaster	97%		87%	10%				
•	Ceramic Tile	3%	3%						
Re	marks: Wall paint is generally intact, but mai	ny areas are soiled, an	id misce	llaneous	areas ar	re peelin	g.		
C-:	2 DOORS/FRAMES		1	2	3	4	5		
•	Hollow Metal/Hollow Metal	99%		100%		*			
•	Glass & Metal/Hollow Metal	1%		1%		*			
Re	marks: *Doors may need to be modified to m	eet Code - refer to Co	de Evalı	uation.					
<b>C</b> -:	3 FLOOR FINISHES		1	2	3	4	5		
•	Terrazzo	40%	40%						
٠	Quarry Tiles or Ceramic Tile	45%	44%			1%			
٠	Unfinished Concrete	15%	15%						
Re	emarks:								
C-	4 CEILING FINISHES		1	2	3	4	5		
•	Painted Plaster	50%		40%	10%				
٠	Acoustical Tiles	50%		50%					

Remarks: See Code Evaluation for replacement of acoustical tile.

### **C-5 EQUIPMENT & CASEWORK**

Remarks: See separate evaluation of food service equipment.

### Part C - Interior Finishes

1st Floor, 2nd Floor, 3rd Floor, 4th Floor

	Percentage	C	Conditio	n		
C-1 WALL FINISHES		1	2	3	4	5
<ul><li>Painted Plaster</li><li>Ceramic Tile</li></ul>	99% 1%	1%	89%	10%		

Remarks: Wall paint is generally intact, but many areas are soiled, and miscellaneous areas are peeling.

C-2 DOORS/FRAMES		1	2	3	4	5
Hollow Metal/Hollow Metal     Glass & Metal/Hollow Metal	99% 1%		99% 1%	*		

**Remarks**: Doors may need to be modified to meet Code - refer to Code Evaluation. \*Weather stripping should be added to exterior doors.

C-3 FLOOR FINISHES		1	2	3	4	5
Terrazzo     Ceramic Tile	97% 3%	97% 3%				

### Remarks:

C-	4 CEILING FINISHES		1	2	3	4	5
•	Painted Plaster	80%		70%	10%		
	Acoustical Tile	20%		20%			

Remarks: See Code Evaluation for replacement of acoustical tile.

### **Part D - Elevators**

**Remarks:** The elevator in Lourdes Hall is an Otis 2-speed A.C. Geared traction elevator installed around 1926. The equipment and cab, while of high quality when installed, are obsolete, and do not begin to meet current standards. A potentially hazardous situation exists now in that the gate to the cab is an open accordion-type metal gate that is manually operated, and it would be fairly easy to get a hand or limb caught between the cab and the hoistway. We recommend replacing the elevator with a hydraulic elevator, and have included costs for this.

# LOURDES HALL Part E - Roof

	Percentage		Condition			
E-1 ROOF COVERING		1	2	3	4	5
Clay Tiles	100%		100%			
<b>Remarks:</b> Continuing annual maintenance is strongly the next 10 years.	recommended.	No m	ajor repla	cement f	oreseer	n in
E-2 FLASHING		1	2	3	4	5
Copper and painted sheet metal			100%			
Remarks:						
E-3 SOFFITS		1	2	3	4	5
Stucco at Ceiling of Recessed entry			100%			
Remarks: Cracks noted in stucco solfit should be m	onitored					
E-4 FASCIA		1	2	3	4	5
Wood Trim at Gutters	100%			100%		
Remarks: Painting and some replacement required.						
E-5 INTERIOR DRAINS						
Remarks: Not applicable.						
E- 6 EXTERIOR DRAINS		1	2	3	4	5
<ul> <li>Gutters and Downspouts</li> <li>Remarks:</li> </ul>			100%			

### Part F - Heating, Ventilating, Air Conditioning

		Condition						
F-1	ENERGY MANAGEMENT SYSTEM	1	2	3	4	5		
•	Energy management system	N/A	N/A	N/A	N/A	N/A		

**Remarks:** There is no energy management system presently installed in this building; however, there exists an opportunity for energy savings and better control of equipment maintenance by installing an energy management system. See Part I, ENERGY EFFICIENCY.

F-2	TEMPERATURE CONTROL SYSTEM	1	2	3	4	5
•	Compressed air system		75%	25%		
•	Pneumatic temperature controls		30%	70%		
٠	Electric temperature controls		60%	40%		

Remarks: The majority of the temperature control system is pneumatic, including room thermostats, air handling unit controls, and fan starter interlocks. The electric temperature controls are confined to the control of the chillers and miscellaneous interlocks. The compressed air systems are in marginally good condition and are fairly well equipped with protective devices. The system in the old fan room requires some more-extensive upgrading. The pneumatic controls; however, have not seen any preventive maintenance or normal calibration work since their installation. There have been no service contracts for any of these control systems. The majority of the pneumatic control system is obsolete and non-functional and should be replaced. The controls that were added in the 1960's as part of the kitchen remodeling are salvageable.

F-3	PIPING INSULATION	1	2	3	4	5
•	HVAC piping insulation		85%	15%		

**Remarks:** The majority of the piping insulation in this building is asbestos; however, for the most part it is in good condition. There are a number of fittings that have been damaged or removed for service work and not replaced. The insulation thickness is marginal and not in compliance with today's standards. See appendix to this report regarding asbestos in buildings.

F-4	DUCT INSULATION	1	2	3	4	5
٠	HVAC duct insulation	-	00%			

**Remarks:** There is very little duct insulation in this building as only the kitchen, bakery and cafeteria are air conditioned. The majority of the duct insulation in this building is fiberglass and is in very good condition. The insulation thickness is acceptable.

Part F - Heating, Ventilating, Air Conditioning (cont.)

14

	Condition						
F-5 AIR HANDLING EQUIPMENT	1	2	3	4	5		
Kitchen/bakery/cafe. air handling system		100%					
<b>Remarks:</b> The air handling system serving this area of the buil require; however, normal maintenance work to restore its opera coils, replace filters, etc.). The system should be checked and	ding is in go ition to desig adjusted for	od cond in cond proper	dition. It litions (i. air balai	: does e.: clear nce.	n		
F-6 AIR CONDITIONING EQUIPMENT	1	2	3	4	5		
Kitchen/bakery/cafe. air handling system chillers		100%					
<b>Remarks:</b> The only area of the building that is air conditioned i area. The air handling system is equipped with three water-codevaporator coils are used directly to cool the air (DX system). T good operating condition, although actual operation was not ob	s the "kitche led, recipro he condens served beca	en/bake cating c ing unit use of t	ry/cafete ondensi s appea he seas	eria ng units r to be li on of the	s. The n e year.		

F-7	EXHAUST FANS AND EQUIPMENT	1	2	3	4	5
•	General and toilet exhaust fans		95%	5%		
•	Pool area exhaust fans		95%	5%		

**Remarks:** All of the exhaust fans, although very old, appear to be operating properly. The exhaust in toilet rooms seemed to be adequate. The exhaust fans should be checked for proper belt tension and belt condition. The exhaust grilles, in general, were dirty and should be cleaned. No abnormal or excessive noise was noticed emitting from any of the fans. The fan wiring; however, is very old and will not allow for any type of automatic control. No cost is included here for re-wiring fans but such work should be considered, especially if an energy management system is installed. <u>Note</u>: This building contains many exhaust fans but no make-up air units. Additional make-up air units should be considered in the future, particularily if window replacement is implemented.

F-8	STEAM HEATING EQUIPMENT	1	2	3	4	5
	Steam piping system		80%	2006		
•	Steam radiators and convectors		50%	20%		
٠	Steam-to-water heat exchanger for pool			100%		
•	Isolation valves		50%	50%		

**Remarks:** The steam piping system appears to be in general good condition. There are a few sections of piping which show evidence of rust and corrosion damage. The building primary heating terminal units are cast iron radiators with hand valves. Most of these hand valves are no longer functional. In addition, automatic control is much more economical to operate. (See Part I, ENERGY EFFICIENCY) The steam-to-hot water convertor for the pool is old and shows much evidence of corrosion damage due to the chlorine atmosphere. This convertor will require replacement in the near future. Many of the large isolation valves are leaking. These valves are repairable.

### Part G - Plumbing

		Condition							
G-1	FIXTURES AND TRIM	1	2	3	4	5			
•	Toilet room fixtures		60%	40%					
•	Dorm. room lavatory fixtures		60%	40%					
•	Kitchen/bakery fixtures		90%	10%					

**Remarks:** The existing fixtures appear to be in fair condition; however, the fixtures are old and antiquated by today's standards. A number of dorm. room faucets leak or are in need of repair parts. There are no fixtures accessible to handicapped students or staff in this building. See section G-8, HANDICAPPED ACCESSIBILITY. While many of the fixtures needing repair are repairable, replacement parts are no longer manufactured. The kitchen and bakery fixtures and trim are in overall good condition, primarily because they are only twenty years old and have seen good maintenance.

G-2	DOMESTIC WATER PIPING AND EQUIPMENT	1	2	3	4	5	
•	Cold water supply piping		100%				
•	Hot water supply piping	100%					
٠	Hot water circulation pump		100%				

**Remarks:** The domestic water supply system, as a whole, appears to be in good condition. No reports of problems or inadequacies were heard.

G-3	FIRE SPRINKLER SYSTEM	1	2	3	4	5
•	Fire sprinkler system	N/A	N/A	N/A	N/A	N/A
Rem	narks: There is no sprinkler system in this building.					

G-4	WATER SUPPLY TREATMENT EQUIPMENT	1	2	3	4	5
•	Hot water softeners	N/A	N/A	N/A	N/A	N/A

**Remarks:** The hot water for domestic use is softened for all buildings. The equipment for this is located in the power plant as all domestic hot water is generated in the power plant.

G-5	MEDICAL/LABORATORY GASES	1	2	3	4	5
•	Laboratory gases	N/A	N/A	N/A	N/A	N/A

Remarks: There are no medical or laboratory gases in this building.

### Part G - Plumbing (cont.)

	х.	Condition							
G-6	DOMESTIC WASTE PIPING AND EQUIPMENT	1	2	3	4	5			
•	Domestic waste piping		100%						
•	Sewage ejector		100%						

**Remarks:** The domestic waste piping system, as a whole, appears to be in good condition. No reports of problems or inadequacies were heard.

G-7	PIPE INSULATION	<b>1</b>	2	3	4	5
•	Pipe insulation		85%	15%		

**Remarks:** The majority of the piping insulation in this building is asbestos; however, for the most part it is in good condition. There are a number of fittings that have been damaged or removed for service work and not replaced. The insulation thickness is marginal and not in compliance with today's standards. See appendix to this report regarding asbestos in buildings.

G-8	HANDIC	APPED A	CCESSIBI	LITY			1	2	3	4	5
•	Toilet roo	om access	sibility							100%	
			• •• •								

**Remarks:** None of the existing toilet rooms are accessible to handicapped persons. A minimum of one toilet room per floor must be modified to be accessible to handicapped persons. Generally, the work involves the replacement of one lavatory and trim with a new lavatory and trim and the removal of two water closets to be replaced with a new single water closet.

G-9	SWIMMING POOL	1	2	3	4	5		
•	Swimming pool filtering equipment	100%						
•	Swimming pool chemical treatment equipment			100%				

**Remarks:** The existing swimming pool filters and chemical treatment equipment is original. It is evidencing much damage from chlorine-ladden fumes. In addition to the condition of the equipment, the treatment system as a whole most likely does not meet current health standarts.

### Part H - Electrical

		Condition							
H-1	PRIMARY SERVICE	1	2	3	4	5			
•	Primary cables	100%							

**Remarks:** The underground primary cables appear to be in good condition. No problems or inadequacies have been reported.

H-2	ELECTRIC SERVICE EQUIPMENT	1	2	3	4	5
•	Unit substation		100%			
•	Transformers		100%			
•	Switchboards		100%			

**Remarks:** Electric service equipment is installed at two locations. A unit substation (primary switch, dry-type transformer and switchboard) located in a sublevel, and an oil-filled outdoor pad transformer with a related switchboard inside. All equipment is about 20 years old, and appears to be in good condition. The outdoor transformer should be tested for PCB's.

H-3	ELECTRICAL DISTRIBUTION SYSTEM	1	2	3	4	5
•	Feeders		15%		85%	
•	Panelboards		15%		85%	
•	Branch circuits		15%		85%	
•	Convenience outlets		15%		85%	

**Remarks:** The 15% figure reflects the Food Service area of the building, where systems appear to be in good condition. Elsewhere, panelboards are the old fusible type; some have open fronts. Much of the wiring is old, with cotton braid covered insulation. There is an inadequate number of circuits and convenience outlets. Only one outlet is located in each dorm. room. Except for the Food Service area, existing feeders, panelboards, and branch circuits should be replaced, additional branch circuits and convenience outlets need to be installed.

H-4	LIGHTING	1	2	3	4	5
•	Lighting fixtures		15%		85%	

**Remarks:** There are fluorescent fixtures in the Food Service area which appear to be in good condition. Elsewhere, original incandescent fixtures are located throughout. These fixtures are inefficient, providing a less than desired illumination level. Most of the incandescent fixtures need to be replaced. Supplementary fixtures should be added in areas where original decorative fixtures remain.

### Part H - Electrical (cont.)

		Condition							
H-5	STANDBY EMERGENCY LIGHTING	1	2	3	4	5			
•	Emergency lighting on standby power source	N/A	N/A	N/A	N/A	N/A			

**Remarks:** There are no egress/exit lighting fixtures connected to a standby power source. This deficiency is address as a "Code Item".

H-6	COMMUNICATIONS SYSTEMS	1	2	3	4	5
•	Telephones		100%			5
•	Television		100%			••••
•	Clock system			100%		
•	Public address			100%		•

**Remarks:** Telephones are located in offices, Food Service and several other spaces. Each dorm. room has a telephone jack. Cable TV is available in the lounges. The clock and public address systems are old and appear to need repair/replacement.

H-7	ALARM SYSTEMS	1	2	3	4	5
٠	Fire alarm	:	100%			
Dom	narke. The fire alarm system appears to be in good condition	Thoro is	no hatte	ary back	un no	•

**Remarks:** The fire alarm system appears to be in good condition. There is no battery back-up, no smoke detectors, and no annunciator panel. These deficiencies are addressed as "Code Items".

H-8	LIGHTNING PROTECTION	1	2	3	4	5
•	Lightning protection system	N/A	N/A	N/A	N/A	N/A

Remarks: There is no lightning protection on the building.

### CONDITION EVALUATION +

### Part I - Energy Efficiency

			Condition						
1-1	ENERGY MANAGEMENT SYSTEM	1	2	3	4	5			
•	Energy management system & temperature control modifications	N/A	N/A	N/A	N/A	N/A			

**Remarks:** Lourdes Hall could benefit from the installation of a central energy management system. Although the opportunities for energy savings in Lourdes Hall are not as great as the academic buildings, an energy management system is a worthwhile investment. The system would provide, at a minimum, night temperature setback with optimized start and stop for areas not occupied by students during off hours, centralized air handling unit control, improved economizer control for the air handling units, exhaust fan control and condensing unit optimization. Other options, such as lighting control and centralized fire alarm, could be added at a later date. The tunnel system of St. Teresa College would assist in keeping the system installation cost low.

1-2	AUTOMATIC CONTROL VALVES	1	2	3	4	5
•	Pneumatic control valves for steam radiators	100%				
•	Self-contained control valves for steam radiators			100%		

**Remarks:** All of the radiators in Lourdes Hall are fitted with old hand control valves. Many of these valves are inoperative or leak. There are two solutions to this problem. Ideally, all of the radiators would be fitted with pneumatic control valves and new thermostats. A lesser cost option is to fit all of the radiators with self-contained control valves. While self-contained control valves do not allow for automatic night setback, they are much less expensive to install.

1-3	SWIMMING POOL COVER	1	2	3	4	5
•	Swimming pool cover and ventilation control	N/A	N/A	N/A	N/A	N/A

**Remarks:** The existing swimming pool room and area must be ventilated continuously to maintain an acceptable humidity level in the building. In addition, make-up water must be added on a regular basis to replace that water which has evaporated. An opportunity exists to reduce the make-up water requirements and ventilation rates by installing a pool cover. The pool cover, when deployed, will reduce surface evaporation and allow the temperature and ventilation rates to be reduced substantially.

1: 11:

### Part I - Energy Efficiency

### I-4 Exterior Walls

**Remarks**: Constructed of brick the walls of this building have little insulating value. However, as with other buildings on campus, the cost to insulate these walls and refinish the interior surfaces is not justifiable from an energy standpoint alone. If rooms are significantly remodelled, insulation should be considered.

Sealants for cracks and joints and at windows are hard but intact. Replacement for window sealant is included in the cost for replacing windows.

#### I-5 Windows

**Remarks**: Windows are single-glazed, double-hung wood units. As noted earlier, they are in poor condition, and our recommendation is to replace them. Costs are included under Part A.

#### I-6 Exterior Doors

**Remarks**: Exterior doors in relatively good condition, except for weatherstripping, and costs for this have been included in Part C.

5-35

#### I-7 Roof

Remarks: The roof has been insulated with 6" of fiberglass batt insulation between the rafters.

### Part J -Handicap Accessibility

### J-1 ENTRANCE ACCESSIBILITY

**Remarks:** Grade-level entrance is available at the ground floor on the north and west sides of this building from a public sidewalk. All levels of this floor are accessible from one or the other of these entrances, however circulation between the dining hall and the elevator is blocked by the kitchen. In the past, students in wheelchairs have been given keys to the kitchen to avoid having to exit and re-enter the building. This condition should be rectified when the kitchen equipment is upgraded. This modification is likely to involve changes to the layout of kitchen equipment, or it may require an exterior walkway. Since it is beyond the scope of this study to redesign this situation, an allowance of \$450,000 has been included

modifications. Costs are also included for upgrading the entrance hardware, and adding identifying signs.

### J-2 VERTICAL CIRCULATION

**Remarks:** The elevator that serves this building provides access to all floors of the building, however the equipment and cab are obsolete, and do not begin to meet accessibility standards. Complete replacement of this elevator is recommended. Refer to Part D for replacement costs.

### **TOILETS/REST ROOMS**

**Remarks:** Currently none of the toilet rooms are accessible to the handicapped. Costs are included here for modifying architectural components (toilet partitions, grab bars, etc.) on one toilet room per floor. Refer to Part G for replacing plumbing fixtures.

### **MISCELLANEOUS PROVISIONS**

**Remarks:** Tactile identification including plaques at generally used spaces, and knurled knobs at hazardous locations will need to be added.

### Part K - Grounds Condition

			Percentage		Condition			
K-1 SIDEWA	LKS/ STEPS			1	2	3	4	5
<ul><li>Concrete</li><li>Stone and</li></ul>	e Walks Id Concrete Steps	,	100% 100%	100% 80%	20%			

**Remarks:** City sidewalks have been recently repaired. Main front steps and south steps of North wing need repair.

### K-2 ROADWAYS

Remarks: Not applicable.

### K-3 PARKING LOTS

Remarks: Not applicable.

### K-4 TREES, SHRUBS, LAWNS

**Remarks:** One 12" diameter tree has died and should be removed. As with the rest of campus, the drought of 1988 appears to have partially damaged the sod. Since the extent of damage is hard to determine, no costs are included for correction.

### **K-5 LAWN SPRINKLERS**

Remarks: Not applicable.

#### K-6 DRAINAGE

**Remarks:** Ground has settled near window wells, and along the north wall in general. Fill should be added to drain surface water away from building.

### Part L - Food Service Area Analysis

### L-1 BAKERY

**Remarks:** The bakery is extremely spacious and could easily accommodate 1200 - 1500 servings per day. The floor is an easily-maintained quarry tile. The entire kitchen, including the equipment, hood area and work tables, is unsanitary and would require a cleaning service to bring it up to a safe and sanitary condition.

No equipment was found to be in excellent condition, so no 1's were given. Most pieces are at least 20 years old. 5's were given when equipment no longer met the health code and would pose a health risk if used. The walk-in cooler in this area is in good working condition, but would need to be re-caulked to prevent high energy costs.

The following is a breakdown of the condition of the equipment in this area:

Condition 2: Fryer Table, Bun Slicer, 20 qt. Filling Kettle, 2 Burner Range, Hood over Donut Fryer, Double Convection Oven, Scaling Bench, Ingredient Bins, Mixer Table, 12 qt, Mixer, Assorted Pan Racks, 80 qt. Mixer, 3 Door Reach-In Cooler, Donut Fryer, Rotary Oven, Sheeter Moulder, Stainless Steel Cabinet.

Condition 3: Walk-In Cooler, 60 qt. Mixer, Bread Slicer, Utility Cart, Proofer.

Condition 4: Commodity Bins, Cooling Rack, Bun Divider

Condition 5: Porcelain Sink, Utility Cart, Slicing Table, Decanning Table, Cooling Racks, Bakery Shelf, Bun Divider Table, Baker's Table, 2 Compartment Sink, Storeroom Shelving, Ingredient Bins.

### L-2 FREEZER AND COOLERS

**Remarks:** In addition to the walk-in cooler in the bakery, there are three older porcelain walk-in coolers, 3 stainless steel walk-in coolers and 1 walk-in freezer. Only the 3 older porcelain coolers need to be replaced. The others may need some caulking but are generally in good working condition. All are working, according to the food service director.

The following is a breakdown of the condition of the equipment in this area:

Condition 2: 1 Freezer

Condition 4: 3 Coolers

### L-3 SALAD AREA

**Remarks:** The salad area was spacious and had ample work areas and sink. There were no garbage disposals which would improve efficiency but the equipment was generally in good condition.

The following is a breakdown of the condition of the equipment in this area:

Condition 2: 4 heated Plate Lowerators, 2 Portable S.S. Work Tables, Utility Cart, Stainless Steel Cabinet, 2 Custom Prep Tables with Sink, 1 S.S. Work Table.

### Condition 5: Can Opener

### L-4 DISH ROOM AND POT ROOM

**Remarks:** The dish room included a custom built conveyor system to bring dishes from the dining room. There were numerous plate carts and cup dollies. Some needed new bumpers, but they were generally in good condition. Although the dishwasher is 20 years old, it is a Hobart and can be expected to be operational another 10 years with only minor repairs.

### Part L - Food Service Area Analysis - Continued

The following is a breakdown of the condition of the equipment in this area:

Condition 2: Soak Sink, Silver Soak Sink, Triple Tank Dish Machine, Conveyor System, 3 Compartment Sink, with Disposer.

Condition 3: 8 Plate Carts, 3 Tray Lowerators, 9 Cup Dollies

Condition 4: 5 Pot Racks, 5 Misc. Carts

Condition 5: 1 Cup Dollie

#### L-5 PREPARATION KITCHEN

**Remarks:** The main preparation kitchen was generous in size and was equipped with top of the line equipment when it was installed 20 years ago. It is time for some to be replaced since parts are no longer available on some pieces. This area also needs to be thoroughly cleaned to prevent health hazards.

The following is a breakdown of the condition of the equipment in this area:

Condition 2: 18 Thermotainers, Hot Food Cabinet, Portable Table, Portable Slicer Stand, Automatic Slicer, 2 S.S. Work Table with Sink, S.S. Canopy, 3 Fryers, Spacer, 4 Burner Range, 4 Canoples with Water Wash, Porcelain Hank Sink, S.S. Wall Cabinet, Roll Through Cooler, Gas Griddle, 5 Steam Jacketed Kettles, (2 - 10 qt., 1 - 20 qt., 2 - 60 qt.)

Condition 3: Reach-In Cooler, Roll Through Cooler, 4 Convection Ovens, Ringburner Range with Oven, Gas Griddle

Condition 4: 2 Ingredient Bins, Double Convection Ovens

Condition 5: 5 qt. Mixer, 60 qt. Mixer, Attachment Motor, Double Pressure Steamer, 3 Compartment Pressure Steamer.

#### L-6 SERVERY

**Remarks:** The servery main item is its 88' long stainless steel serving line. It includes 16 hot food wells and two 8' refrigerated cold pans. The area is well-equipped with dish and tray dollies. The serving line is fixed which reduces its flexibility and salad bars as well as a soft serve ice cream machine may want to be purchased to serve foods popular in the 80's. Consideration should be given to dividing the serving line into two or three sections to allow access from the kitchen to the dining room. Costs for this modification are not included. There is a spacious dining room with approximately 200 square tables with sturdy wooden chairs.

The following is a breakdown of the condition of the equipment in this area:

Condition 1: Stainless Steel Serving Line

Condition 2: 2 Enclosed Base Cabinets, S.S. Toaster Table, Enclosed Cart, Ice Maker, 2 Heated 4 Well Plate Dollie, 2 Tray and Silverware Holders, S.S. Serving Line, 5 Glass Lowerators, 2 Toasters, 2 Milk and Water Stations, 4 Well Ice Cream Dipping Cabinet.

Condition 3: Enclosed Dish Dollie, Enclosed Fruit Dish Lowerator.

Condition 4: Rotary Toaster