Houston, Minnesota

FACILITY CONDITION ASSESSMENT

Houston Community Center

October 30, 2013

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PART I - General

STUDY GOAL

The goal of this Facilities Study is to provide a detailed evaluation of the existing Houston Community Center in it's present condition along with recommended repair, replacement and/or upgrade of building components, equipment and systems. The intent will be to provide an accurate assessment of building modifications that the City of Houston may consider to extend the usable life span of the facility. Budgeting information is based on current material and labor costs but may need to be adjusted if the work is deferred to a future date.

BUILDING SURVEY

- **Building Envelope**

  The study of the "building envelope" included an evaluation of the roofing conditions, exterior walls, and doors and windows. In addition, the study looks at the impact of recommended upgrades to the thermal performance of replacement roof systems, window replacement and exterior wall construction.

- **Structural Review**

  The structural review will include a summary of observed structural systems and components including the floor and roof structure. Conditions of support walls are generally concealed and would require removal of windows, exterior doors, and wall cladding to further inspect conditions of stud framing.

PART I - General

BUILDING SURVEY Continued…

- **Hazardous Materials (Asbestos)**
  A visual inspection of suspected asbestos containing composite building materials was conducted in August 2013 by Immediate Response Abatement, Inc. (La Crosse, WI). A 'Summary Of Composite Materials' that either commonly contain asbestos or occasionally contain asbestos is attached as an appendix item with this report. Further testing will need to be performed before a cost for the abatement work can be determined. A proposal from Immediate Response Abatement to perform the sample testing is also included.

- **Building Interior Upgrades, Repair & Maintenance**
  The study of the building interior included a survey of the following:
  1) Floor Coverings: Resilient flooring, hard tile surfaces, carpet
  2) Wall Finishes: Vinyl wall covering, painted drywall/plaster surfaces, wood paneling
  3) Ceilings: Acoustical tile ceiling panels
  4) Doors & Hardware
  5) Built-in Cabinets

- **Mechanical Systems**
  The survey of mechanical systems looked at conditions and recommended repairs or replacement of:
  1) Fire protection components
  2) Plumbing: Hot water plant, domestic water and plumbing fixtures.
  3) HVAC systems: Boilers, air handling units, temperature controls

PART I - General

BUILDING SURVEY Continued…

- **Electrical Systems**
  Electrical equipment under review included the following:
  1) Panelboards
  2) Fire alarm system
  3) Public address system
  4) Interior lighting

- **Handicap Accessibility**
  The Study will include a summary of existing conditions and conflicts with the current ADA guidelines for handicap accessibility.
  1) Accessible route for entry into the building
  2) Interior circulation, corridors, toilet rooms

PART 2 – Building Information

BUILDING CONSTRUCTION

The Houston Community Center was constructed (as reported) around 1910. Archive photos are included as an appendix to this report. The building was constructed as a two- level structure with concrete slab-on-grade lower level floor, wood framed second level floor. The roof structure consists of heavy timber type support trusses. The foundation and perimeter walls appear to be of locally quarried stone bearing walls.

BUILDING SIZE*

Community Center	
Lower Level	4,224 SF
Second Floor	4,302 SF
Total	8,526 SF

Garage (detached)	
Main Level	960 SF

* Gross square footages are based on as-built plans prepared by RMB Designs, Houston, MN and dated December 2, 1991.

PART 2 – Building Information

BUILDING CODE ANALYSIS

Occupancy Assembly Group 'A-3'

Per International Building Code, Assembly Group A occupancy includes, among others, the use of a building or structure, or a portion thereof, for gathering of persons for purposes such as civic, social or religious functions; recreation, food or drink consumption; or awaiting transportation.

Assembly Group 'A-2' uses intended for food and/or drink consumption including, but not limited to:

- Banquet Halls Assembly Group 'A-3' uses intended for worship, recreation or amusement and other assembly uses not classified elsewhere in Group 'A', which includes:
- Community Halls

Construction Type

Type 5; *Type 5 construction is that type of construction in which the structural elements, exterior walls and interior walls are of any materials permitted by Code.*

Allowable Height And Building Areas (IBC Table 503)

Allowable Height *6,000 SF per story*

Allowable Height *2 levels*

Fire-Resistance Rating Requirements

Structural Frame (including columns, girders, trusses)

** Fire-resistance ratings of structural frame and bearing walls are permitted to be reduced by 1-hour where supporting a roof only.*

STATE FIRE MARSHAL INFORMATION

The Deputy State Fire Marshal, Code Specialist was contacted to discuss the requirements (if any) concerning the provisions of a fire suppression system included with any remodeling of the building. The response is included below.

To answer your original question, based on the information you provided, I don't see anything in the fire code that would require the entire building to have an automatic fire sprinkler system. I have attached our information sheet on assembly occupancies.

Per our phone conversation today, this is the information from Chapter 7 on floor openings and shafts. As your building is only 2 stories, Table 704.1 would not require any protection of the openings and shafts. I checked a couple of other sections and Section 703 has the requirements to maintain required fire rated construction and Section 705.3 has requirements for separating incidental use areas. Section 705.3.2 would not require the separation when sprinklers are installed in the incidental use area and it's possible for the sprinkler heads to come off of the domestic water supply if 6 or less heads.

SECTION 703
FIRE RESISTANCE-RATED CONSTRUCTION

703.1 Maintenance. The required fire-resistance rating of fire-resistance-rated construction (including walls, firestops, shaft enclosures, partitions, smoke barriers, floors, fire-resistive coatings and sprayed fire-resistant materials applied to structural members and fire-resistant joint systems) shall be maintained. Such elements shall be properly repaired, restored or replaced when damaged, altered, breached or penetrated. Openings made therein for the passage of pipes, electrical conduit, wires, ducts, air transfer openings and holes made for any reason shall be protected with approved methods capable of resisting the passage of smoke and fire. Openings through fire-resistance-rated assemblies shall be protected by self- or automatic-closing doors of approved construction meeting the fire protection requirements for the assembly.

703.1.1 Fireblocking and draftstopping. Required fireblocking and draftstopping in combustible concealed spaces shall be maintained to provide continuity and integrity of the construction.

703.1.2 Smoke barriers. Required smoke barriers shall be maintained to prevent the passage of smoke and all openings protected with approved smoke barrier doors or smoke dampers.

703.2 Opening protectives. Opening protectives shall be maintained in an operative condition in accordance with NFPA 80. Fire doors and smoke barrier doors shall not be blocked or obstructed or otherwise made inoperable. Fusible links shall be replaced promptly whenever fused or damaged. Fire door assemblies shall not be modified.

SECTION 703
FIRE RESISTANCE-RATED CONSTRUCTION Continued…

703.2.1 Signs. Where required by the fire code official, a sign shall be permanently displayed on or near each fire door in letters not less than 1 inch (25 mm) high to read as follows:
1. For doors designed to be kept normally open: FIRE DOOR—DO NOT BLOCK.
2. For doors designed to be kept normally closed: FIRE DOOR—KEEP CLOSED.

703.2.2 Hold-open devices and closers. Hold-open devices and automatic door closers, where provided, shall be maintained. During the period that such device is out of service for repairs, the door it operates shall remain in the closed position.

703.2.3 Door operation. Swinging fire doors shall close from the full-open position and latch automatically. The door closer shall exert enough force to close and latch the door from any partially open position.

703.3 Ceilings. The hanging and displaying of salable goods and other decorative materials from acoustical ceiling systems that are part of a fire-resistance-rated floor/ceiling or roof/ceiling assembly, shall be prohibited.

703.4 Testing. Horizontal and vertical sliding and rolling fire doors shall be inspected and tested annually to confirm proper operation and full closure. A written record shall be maintained and be available to the fire code official.

PART 2 – Building Information

SECTION 704
FLOOR OPENINGS AND SHAFTS

704.1 Enclosure. Interior vertical shafts, including but not limited to stairways, elevator hoistways, service and utility shafts, that connect two or more stories of a building shall be enclosed or protected as specified in Table 704.1.

704.2 Opening protectives. When openings are required to be protected, opening protectives shall be maintained self-closing or automatic-closing by smoke detection. Existing fusible- link-type automatic door-closing devices are permitted if the fusible link rating does not exceed 135ºF (57ºC).

704.3 Compliance alternative. Protection of vertical openings that do not serve as part of the required means of egress conforming to the requirements of NFPA 101 (Life Safety Code) shall be deemed to be in compliance with this code.

TABLE 704.1
VERTICAL OPENING PROTECTION REQUIRED

OCCUPANCY CLASSIFICATION	CONDITIONS	PROTECTION REQUIRED
Group I	Vertical openings connecting two or more stories	1-hour protection
All, other than Group I	Vertical openings connecting two stories	No protection required[a,b]
All, other than Group I	Vertical openings connecting three to five stories	1-hour protection or automatic sprinklers throughout[a,b]
All, other than Group I	Vertical openings connecting more than five stories	1-hour protection[a,b]
All	Mezzanines open to the floor below	No protection required[a,b]
All, other than Group I	Atriums and covered mall buildings	1-hour protection or automatic sprinklers throughout
All, other than Groups B and M	Escalator openings connecting four or less stories in a sprinklered building. Openings must be protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13	No protection required
Group B and M	Escalator openings in a sprinklered building protected by a draft curtain and closely spaced sprinklers in accordance with NFPA 13	No protection required

a. Vertical opening protection is not required for Group R-3 occupancies.
b. Vertical opening protection is not required for open parking garages and ramps.

PART 2 – Building Information

SECTION 705

705.3 Incidental use areas. Incidental use areas shall be separated from the rest of the building in accordance with this section. Incidental use areas are defined as shops, laboratories containing hazardous materials, storage rooms exceeding 100 square feet in size, laundry rooms exceeding 100 square feet in size and rooms containing boilers or central heating plants where the largest piece of fuel equipment exceeds 400,000 BTU per hour input.

705.3.1 Separation required. Incidental use areas in Groups A, B, E, F, H, I, M, R-1, R-2 and S occupancies shall be separated from the rest of the building by not less than a one-hour fire barrier. Existing wood lath and plaster in good condition or 1/2-inch (12.7 mm) gypsum wallboard is acceptable where one-hour fire barriers are required. Storage rooms need not be separated in Groups F, M or S occupancies.

705.3.2 Sprinkler protection in lieu of separation. Incidental use areas in Groups A, B, E, F, H ,M and S occupancies need not be separated when the incidental use area is protected with automatic sprinklers.

As we discussed, you may want to contact the city's building code official to see if the remodel would trigger a building code evaluation for items such as height and area requirements from IBC Chapter 5.

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PART 3 – Building Envelope

Scope of Work
1) Roofing
2) Exterior Walls
3) Windows

ROOFING

The community center is framed as a hip roof design with asphalt shingles. The south half of the shingled roof was replaced in 2010 by Affordable Roofing & Siding (Houston, MN). The shingles are a Tamko Weatherwood Heritage Series, 30-year rating. The age of remaining shingles is not known but should be considered for replacement within the next couple of years.

Estimated Cost: $17,000 - $19,000

Eave gutters and downspouts are showing signs of age with corrosion and should be replaced. One location on the north side is filled with run-off debris to the point of supporting weeds growing in the gutter. It is assumed that the wood backing behind the metal fascia will likely need to be replaced as a result of water damage. Any new roof water collection (gutters and downspouts) should be routed if possible to a storm sewer. A further evaluation of the storm water management would need to be completed.

Estimated Cost: $3,500 - $4,500

PART 3 – Building Envelope

EXTERIOR WALLS

Based on observations where the existing stucco has fallen away, the exterior walls appear to be a combination of stone masonry for the foundations and lower level, and presumably wood framing at the upper level. The interior surfaces are generally furred out plaster or paneling. The stucco exterior is applied over a metal lath and has lost attachment to the stone walls behind. The cracks and voids between the stone and stucco are highly susceptible to moisture intrusion that will increase the rate of deterioration. Repairs to the exterior wall conditions would involve a major effort of the tuckpointing and waterproofing. Replacement of the stucco would require anchoring new galvanized metal lath into the stone walls (or wood framed walls on the upper level). Ideally, some type of breathable moisture barrier should be installed between the stone and stucco. The replacement of the existing stucco would provide an opportunity to add a layer of rigid insulation to the exterior face of the perimeter walls. The stone walls would require either tuckpointing or applying a parging coat to level the surface of the stone. The 'level' surface could then be clad with a new exterior insulation & finish system (EIFS) with an acrylic plaster finish. The unknown factors cannot be identified until the wall sheathing is uncovered for inspection.

Estimated Costs: $120,000 - $150,000

PART 3 – Building Envelope

WINDOWS

The existing wood windows show significant signs of deterioration resulting in air and water infiltration that would likely require reconstructing the wood framing around each window opening. It is presumed that window jambs, sills and headers would need to be pulled out and re-framed.

The unanswered question concerns the degree of deterioration at each window opening, which would realistically need to be inspected on a case by case basis during any remodeling project. Replacement of the windows would result in improved thermal efficiency thru current window and insulated glass design. The majority of the expense would be attributed to the complexity of the carpentry work necessary to construct the new rough openings for the windows. Replacement windows could be selected of prefinished aluminum, clad wood or fiberglass.

Estimated Cost: $13,000 - $20,000

PART 3 – Building Envelope

ROOF STRUCTURE

The roof structure, as observed, is all wood framed consisting of a hip-roofed design of area of the roof including the ridge line was damaged due 2 x 6 rafters supported on the exterior walls and built-up wood girder beams. The roof sheathing that could be observed appears to be of 1 x ___ wood planking. The center area of the roof including the ridge line was damaged due to fire. A majority of the framing in the west and center area had been repaired. Based on initial review, the trusses with the exception of the west most truss appear to be in good condition but do show signs of long term deflection creep. As noted in the attached structural review, the west truss was damaged by fire and lost the top chord in the fire and shows more settlement at mid-span than the other trusses.

As part of the overall building envelope, it is assumed that the west end would need to be opened up to allow repairs or reconstruction to the west truss area mentioned above. Repairs to the clear span truss damaged by the fire will require a further evaluation.

Estimated Cost: $22,000 - $30,000

PART 4 – Structural Review

Observations of the existing Community Center were made on July 23, 2013, by Structural Design Group of Rochester, Minnesota. A summary report follows:

On Tuesday July 23, 2011, I visited the building with you to review the general condition of the structure. The scope of the site visit for Structural Design Group, Inc. was to observe where visible the condition of the structure, look for signs of deterioration, and make an opinion of the condition of the structural framing system, and if any hazards to life safety. The following is a summary of my observations:

1. The original building is a 59 ft. x 90 ft. two story structure with basement built approximately 1910. An addition to the front of the building was added at a later date.

2. The foundations are Stone Masonry. The stone foundation is visible where the plaster wall finish has deteriorated exposing the stone at the back wall. The stone appears to extend up to the main floor line. The stone mortar joints appear to be deteriorated to the point of requiring repair.

3. The upper exterior walls are presumed to be wood framed, exterior finished w/ plaster.
   The wood stud wall framing is not visible in any location. Any moisture infiltration over the years at window jambs, heads or sills may have deteriorated the wood framing at the windows.

4. The main floor and Second floor are 2x wood joists framing. The main floor framing is visible in the ceiling of the lower level American Legion kitchen. Second floor framing is visible in the main floor dining hall. Second floor framing is in good condition where observed. The main floor framing at the American Legion kitchen has wood beams which have been compromised due to cutting/notching at the back wall. A repair by the addition of steel angles is in place. No settlement or movement is visible.

5. The majority of the second floor is supported on 21" deep steel beams clear spanning the main floor dining room, and are visible in the ceiling. The steel beams observed are in good condition.

PART 4 – Structural Review

6. The roof framing is accessible by an attic assess panel located in the upper level outdoor entry lobby. The roof is all wood framed where observed. The main hip shaped roof is constructed of 2x6 rafters at 24" c/c supported on the exterior walls and two (2) built up wood girder beams at approximately ¼ spans of the 59 ft. width of the building. The center area of the roof including the ridge line was damaged due to fire. A majority of the framing in the West and Center area of the roof have been repaired. Four (4) built up wood trusses clear span the upper level dance floor, paralleling the 21" deep steel beams directly below. All observed truss with the exception of the west most truss are in good condition, but show some sign of long term creep settlement.

7. The west truss was damaged in the fire and lost the top chord in the fire (presumed).
   The roof rafters are re-supported with beam framing which is working but lost the truss action of the original framing. This truss shows much more settlement at mid-span than the others, and required further inspection and possible rebuilding. This condition has been stable but is a potential hazard.

8. The brick work at the entry is pulling away from the building.

Recommendations:

1. Inspect the stone foundation to determine the extent of repairs required. This will require removing wall finishes.
2. Further inspect the main floor framing above the American Legion and determine if addition repairs are required. This will require removal of ceiling finishes.
3. Further inspect the roof framing, and determine a repair of the existing built up wood truss at the west end.
4. Determine repair for the front of building brick work.

The building has structural conditions, which require further inspection and potential repair. This letter is not intended as a warrantee of the building condition, but is observations of conditions visible during our walk through.

Alan R. Hiniker P.E.

PART 4 – Structural Review

Center Front Elevation

Rear Elevation

PART 4 – Structural Review

Damaged Limestone Foundation Wall Visible

Repaired Beam at Ceiling of American Legion Kitchen

PART 4 – Structural Review

Brick Fascia
Displacing Outward at New Entry

PART 4 – Structural Review

Lower Level Dining Hall

Upper Level – Truss Bottom Chords Visible

PART 5 – Handicap Accessibility

The Houston Community Center structure was constructed as a two-level facility. The lower level included dining/meeting room, a prep kitchen, men's and women's toilet rooms, a secondary meeting room (presently utilized by the American Legion, kitchenette room, a mechanical room, and office. The upper level was designed primarily as an open dance hall with a stage platform, ticket booth, furnace room, serving bar and storage room.

The lower floor level was constructed approximately three feet below the finished grade around the building requiring stairways connecting the multiple levels. The American Legion meeting room is also below grade with two sets of stair steps.

An analysis of the building for ADA handicap accessibility reveals the following deficiencies;

ACCESSIBLE ROUTE

1. An interior ramp was added off the south side with the intent of providing an accessible route between the exterior sidewalk and the recessed dining & meeting room level on the lower level.

2. The ramp, however, does not provide access to the American Legion room at the east end of the building. The Legion meeting room is accessed thru a door opening on the east side requiring steps down approximately 26 inches, however the headroom thru the opening is less than the minimum 80 inches required by the International Building Code.

3. The original entrance located on the south side is also problematic. The landing inside drops approximately 6 inches from the exterior sidewalk level and would need to be enlarged to per building code.

PART 5 – Handicap Accessibility

INTERIOR CIRCULATION

1. In general, the interior circulation from the bottom of the ramp on appears to be partially compliant, however, the existing doorways would require to be widened and in some cases re-positioned. Stairs would also require various degrees of modifications to ensure that stair risers and treads comply with current ADA guidelines.

2. Possibly the greatest conflict with the ADA guidelines centers around the men's and women's toilet rooms located on the main level starting with corridor and doorway clearances entering the toilet rooms. Clearances inside the toilet room, stall layout and wheelchair turning areas fall well short of the minimum dimensions required by ADA guidelines. Any remodeling work would basically require gutting the toilet facilities and expanding into an adjacent space, which would then impact that adjacent space.

EGRESS REQUIREMENTS

1. The seating and circulation capacity of the lower level dining/meeting room calculates out to 88 occupants, requiring two exits. The main exit from the dining/meeting room is out of the SE corner into a corridor linked to the ramped access to the exterior. A second exit is located in the SW corner of the meeting room. The two exits are separated in compliance with the Code.

EXISTING CONDITIONS

Summary of Existing Conditions

Plumbing systems within this building are basic and simple. In general, the plumbing systems serve small public toilet rooms, the large kitchen in the lower level, a residential sink in the small meeting room in the lower level, and very minimal service to the bar on the upper level.

The Owner reports that the sanitary sewer outside the building plugs with some frequency. It is believed that this service runs too flat and materials simply do not flow to the municipal main adequately. Considering the age of this building, it is highly likely that the building and adjacent grades have settled and caused this drain line to become more flat. The solution is probably limited to replacing this sewer line with a new line of proper size and pitch. We also do not believe that the kitchen has any type of grease interceptor. This may be contributing to the problem. Although cooking is probably minimal in this kitchen, the use by a variety of parties could result in greasy wastes being discharged directly into the sewer. Greasy waste will certainly complicate this problem.

In general, the public toilet room fixtures are in good to very good condition. At the last renovation, the toilet rooms and toilet fixtures probably met all handicapped accessibility guidelines. They do not meet the current ADA requirements, but provide reason service to handicapped and impaired patrons. Toilet fixtures are "residential" with floor-mounted and flush tanks. Lavatories are wall-hung, commercial duty. Urinals are floor-mounted with flush valves.

The lower lever large kitchen is equipped with a 3 compartment scullery sink with typical commercial trim, a pre-rinse sink at the dishwasher, and a commercial duty under-counter dishwasher. All visible piping within the large kitchen is new PVC drainage piping and copper water distribution piping.

PART 6 – Plumbing Systems

EXISTING CONDITIONS Continued . . .

The sink in the small lower level kitchen is actually two (2) counter-mounted single bowl sinks installed side by side. Piping is PVC with copper water piping. The installation is not quite "legal" with multiple drainage connections to a single vertical drain served with an "admittance valve". Legal or not, it probably works fine for the needs.

The plumbing on the upper level is very minimal and somewhat illegal for the fixtures installed. Again, it probably serves the needs, but should be re-worked a little for a completely legal installation. There are only two fixtures on the upper level: A laundry tub used as a sink and a small ice chest. Ideally, a permanent bar location should be established with a more permanent plumbing arrangement.

The building is equipped with a new water softener and a new water heater. Both are in good condition. The water heater is a very small, residential, gas-fired unit. It is likely suitable for most uses within this building, but would likely be inadequate with high use of the dishwasher along with hand dishwashing.

In general, the plumbing systems are minimal, but probably adequate for the current needs of this building. The water service is only 1" in size and will not support much additional load. The sanitary sewer is presumably 4 inch in size. The piping is a mixture of old galvanized steel water piping, new copper water piping, old cast iron drainage piping and new PVC drainage piping. None of these materials are inherently poor and most older buildings have this combination of materials.

RECOMMENDED IMPROVEMENTS

1. Replace sanitary sewer line between building and street.
2. Provide new grease interceptor.
3. Install new ADA compliant toilet and vanity fixtures at proposed new handicap accessible toilet rooms on upper level.

EXISTING CONDITIONS

Summary of Existing Conditions

The lower level of this building is heated with a single gas-fired, high-efficiency, "sealed combustion" boiler. (Weil McLain "Ultra"). The boiler is relatively new and was installed in a neat and workmanlike manner. We did not observe the boiler in operation, but it appears to be fully operational.

The original heating system in this building was low pressure steam serving a variety of fan-forced unit heaters, convectors and radiators. The building has now been converted to hot water and uses both the existing steam piping (for hot water supply) and condensate return piping (for hot water return). Although this is commonly done, we are concerned that the existing piping system was adequately cleaned prior to connection of the hot water boiler. Old steam and condensate piping is notorious for having rust, scale, and other contaminates. New high efficiency boilers, such as the one currently installed, are very sensitive to contaminates and debris in the water. As water is circulated through the existing piping system, this rust and scale erode off the inner wall of the piping and eventually make their way back to the boiler. At the boiler, these contaminates lodge in the smaller passageways within the boilers. As these passageways become obstructed, the boiler will overheat and quickly fail.

Loose scale, rust and debris can also cause the water chemistry to "shift". The Weil McLain boiler installed at this building uses an aluminum heat exchanger. Aluminum heat exchangers are now quite common, and very efficiency, but also very sensitive to a water PH that is too far from neutral. A water PH that is more than a couple points from neutral (7.0) will destroy this boiler within a single heating system. The facility should be inspecting water quality on a regular basis to prevent any major damage to this boiler.

EXISTING CONDITIONS Continued . . .

Most of the original heating equipment is still in place on the lower level. Generally, these are fan-forced unit heaters. The steam traps remain, which indicate that the internal mechanisms have simply been removed to allow water to circulate. No control valves were observed. The water circulates continually during the winter season and the unit heater fans cycle on and off to maintain space temperature. Although not ideal, this system works fine.

None of the thermostats observed were "night setback" style, although the occupants are likely very good at lowering the room temperature when the building is not in use.

None of the areas on the lower level have any "ventilation" air as required under current Building Code.

The smaller room on the lower level has one through-wall air conditioning unit for mechanical cooling, but no outside ventilation air capabilities. The kitchen in this space has two residential-sized exhaust ducts – presumably used for residential range hoods. The hoods are no longer installed. The ducts simply terminate as open ducts. The only separation between the interior and the exterior is a light metal backdraft damper installed in the exterior wall caps. Since this area of the building serves as both a meeting room, and has a cooling kitchen, it really should be equipped with exhaust ventilation and an equal amount of fresh outside air ventilation. At present, no HVAC equipment exists to provide this service.

EXISTING CONDITIONS Continued . . .

The larger community room on the lower level is similarly equipped. Heating is provided by the boiler and old unit heaters and convectors. The kitchen is equipped with an exhaust fan installed in the exterior wall. This fan may meet current Code requirements for total exhaust volume, but this kitchen does have a commercial-quality cooking range that appears to be used. No exhaust hood is located over this range. A commercial quality exhaust hood with correctly-sized exhaust system and a fire protection system should be installed in the kitchen. Similarly, an exhaust hood should be installed over the dishwasher, although this is not necessarily a Code requirement.

A single "through-wall" air conditioning unit provides some mechanical cooling in this space. No outside air ventilation systems serve this space.

The upper level of this building is heated and cooled with two residential furnaces. Each furnace is nominal 5 ton in capacity. Two air conditioning units (condensing units) are suspended on a platform on the back side of this building. The installation is neatly done and the systems were started and observed to cool well, but there is no outside air ventilation component to this system. Outside ventilation air should be provided to this space based on large number of occupants that likely are in this space at one time.

Thermostats on the upper level are also "single temperature" without any automatic night setback capabilities.

In general, much of the equipment currently installed is relatively new and in good to very good condition. The original steam and condensate piping was used extensively and condition of that piping is unknown. The original piping was, and still is, insulated with asbestos-containing materials. Much of this asbestos-containing material is located in the occupied spaces and vulnerable to damage by visitors.

PART 7 – HVAC Systems

EXISTING CONDITIONS Continued . . .

RECOMMENDED IMPROVEMENTS

1. Add a dedicated ventilation system to the lower lever small meeting room. Consider abandoning the air conditioning unit and incorporating air conditioning into the new ventilation system.

2. Provide a dedicated exhaust system in the kitchen area of the small meeting room in the lower level. This system to be designed and installed based on the actual use of this kitchen.

3. Add a dedicated ventilation system to the lower lever large community room and kitchen. Consider abandoning the through-wall air conditioning unit and incorporating air conditioning into the new ventilation system.

4. Provide a commercial exhaust hood with fire suppression system over the existing cooking equipment.

5. Provided a commercial exhaust hood over the dishwasher.

6. Add outside air ventilation to the upper level. This can probably be incorporated with the existing furnaces, but likely will require an energy recovery ventilator to not over-burden the heating and cooling capacities of the furnaces.

7. Consider removing all asbestos-containing insulation and replace with a modern fiberglass product.

EXISTING CONDITIONS

Summary of Existing Conditions

The electrical systems within this building have been replaced, at least once, and perhaps numerous times during the life of this building. Some systems are newer than others. In general, most of the electrical systems are in satisfactory conditioning.

Electrical power is supplied to the building from an overhead transformer immediately adjacent to the building. The service is overhead and all main disconnect switches are located on the exterior of the building. Metering is done with C/T's installed on the overhead mast. A single meter is used to meter power to the entire building.

There are three (3) disconnect switches on the back side of the building which comprise the "service entrance". These devices are fairly modern and appear to be in satisfactory condition. All disconnects were locked, so we were not able to observe the conductors inside or the actual fuse sizes. Considering the age of these disconnect switches, we will presume the installation is legal.

The disconnect switches serve (3) panelboards. One is located in the kitchen area of the small lower level meeting room, one is located in the lower level mechanical room behind the large kitchen, and one is located on the upper level in the dance floor. All three panelboards are modern-style "load centers". Some 1950's era equipment is still in use, but appears to be safe and functional.

PART 8 – Electrical Systems

EXISTING CONDITIONS Continued . . .

Lighting systems are simple, but adequate and have been updated within the last 20 years or so. In general, lighting is fluorescent with simple surface or recessed fixture shapes. Incandescent lighting is used in the mechanical rooms and store rooms. Exit lights exist, but are inadequate and do not have battery-back-up power supplies. Some emergency egress lighting exists, but is inadequate under current Building Code. Light switching is simple with typically a single switch per room/space.

Convenience receptacles are located about as one would expect. Circuiting (number of devices on a circuit) was not documented at this time. There appears to be some mix of individual conductors in conduit, and some NM cable.

We did observe a number of "conventional" receptacles that should be GFCI-protected. Typically, any receptacle in the kitchens, bathrooms, mechanical rooms, or outside should be GFCI-protected.

The building does have a fire alarm, but it is very minimal and also fairly antiquated. Considering the potential for large quantities of people in this building, and the somewhat complex arrangement of exit passageways, we would strongly encourage a new, building-wide, fire alarm be installed.

Other specialty systems are minimal. There is single line telephone service within the building. No security devices and other communication devices were observed.

PART 8 – Electrical Systems

EXISTING CONDITIONS Continued . . .

RECOMMENDED IMPROVEMENTS

1. Provide a new, building-wide fire alarm system with detection and notification devices to meet current Building Code and ADA requirements.

2. Provide additional (and probably replace existing) Exit lights and emergency egress lighting.

3. Consider updating lighting systems. Although many fixtures within the building are fluorescent, they are old fluorescent technology using T12 lamps. New fixtures will provide better light levels are lower energy consumption. Even with the low hours of use, this item probably makes good economic sense.

4. Replace all exterior lighting to provide better security. Many of the exterior lighting fixtures are damaged or very antiquated. Replacement with new LED fixtures will allow these fixtures to operate all night low for security and minimal cost. Provide automated controls for these fixtures.

5. Provide and install GFCI-protected receptacles at all locations dictated under current Building Code.
   This is a low cost item and protects great safety, especially for a building used by a variety of occupants.

6. Consider replacing all manual lighting switches. Lighting switches do wear out. As part of this effort, install automatic occupancy-sensing switches where appropriate, such as toilet rooms and storage rooms.

7. We would recommend that a grounding conductor audit be prepared. In a facility this size, it is minimal time and effort to verify that the electrical service is properly grounded and that all feeder and branch circuit conductors have adequate grounding conductors (size, quantity, and terminations.)

PART 9 – Utility Costs

The original construction included materials of minimal insulation values, which significantly contributes to the annual utility costs associated with heating and air conditioning loads. Based on the current conditions, annual utility costs are in the range of $8,000.

		2012 Expense
Electrical Utility	Tri County Electric Rushford, MN	$3,600 - $4,000
Gas	Minnesota Energy	$4,000 - $4,000

Based on the overall square footage of approximately 8,500 S.F., utility costs are running about $1.00/S.F. Considering the building is seldom used heavily with air conditioning generally off, and heating temperatures set back whenever possible, this sounds very reasonable. Most buildings with both heating and cooling, and not excessive ventilation requirements or high energy features (such as indoor pools, etc.) will consume between $1.00 and $2.00 per gross square foot of total floor area.

PART 10 – Budget Summary

PRE-CONSTRUCTION SERVICES

1. Asbestos Abatement Testing	$2,000 -$2,900
2. Asbestos Abatement Services (By Owner)	To be determined

SITEWORK

1. Storm Water Management: If required by City of Houston, one possible solution would be to demolish the detached garage and construct a recessed storm water detention area along the west side of the of the Community Center with a tie-in to the storm sewer main at the street.	$8,800 - $9,500

PART 10 – Budget Summary

SITE UTILITIES

1.	Water Service: No water service to the new building will be required.	No work
2.	Sanitary Sewer: Replace sanitary sewer piping out to street. Work will require the trenching and street patching necessary to install a new sewer line to serve the building's plumbing modifications. This work would simply replace the existing sanitary sewer with new piping in the same approximate location. New bedding would be provided to maintain a solid base and to maintain as much pitch as possible. We understand the pitch may be minimal from the building to the sanitary sewer in the adjacent street.	$15,000
	As an alternative, an exterior sump with grinder pump set could be installed. This would presumably be installed just outside the back deck. Sewage would drain by gravity into the sump. Based on level, a pair of pumps would pump the sewage to the adjacent street. This would eliminate the pitch concerns of the gravity sewer line. In addition to a higher cost, there is maintenance costs associated with a pumped sewage disposal system, as well as a life expectancy for the pumps.	$25,000
3.	Storm Sewer: The roof run-off is for the most part collected in eave Gutters and conducted thru downspouts where they discharge onto grade. If the City requires any type of storm water management, a subgrade collection piping system could be constructed in conjunction with an on-site a graded detention pond area.	
4.	Electric Service: Existing O.H. service to remain.	No work

PART 10 – Budget Summary

GENERAL CONSTRUCTION

1.	Remove existing exterior stucco, parge coat stone walls and install new EIFS system.	To be determined
2.	Re-roof remainder of shingled roof, replace metal fascia and eave gutters.	$17,000 - $19,000
3.	Replace roof fascia, gutters and downspouts. Replace water damage wood framing behind fascia where uncovered.	$ 3,500 - $ 4,500
4.	Replace existing windows, including the replacement of water damaged wood framing uncovered by removal of windows.	$13,000 -$20,000
5.	Re-construct fire damaged roof structure at west end.	$22,000 -$30,000
6.	Remodel upper level to add two new handicap accessible toilet rooms to serve the upper level assembly hall.	$18,000 - $20,000
7.	Remodel stairwell in SW corner serving upper level assembly hall to provide fire rated egress stairway.	$ 8,800 - $9,600

PART 10 – Budget Summary

PLUMBING

1.	Provide new grease interceptor. Regardless of how the exterior sanitary sewer system is resolved, this building should be equipped with a grease interceptor(s) for the kitchen. Since it may be impossible to separate the kitchen drainage waste from the remainder of the building outside the building, the preferred installation is to provide an individual grease interceptor on each scullery or "clean-up" sinks in the kitchen. Interior interceptors require more frequent cleaning, but the use of this building probably would result in annual cleaning at the most frequent.	$2,500
2.	Install new ADA compliant toilet and vanity fixtures at proposed new handicap accessible toilet rooms on upper level.	$10,000

HVAC

1.	Add a dedicated ventilation system to the lower lever small meeting room. Consider abandoning the through-wall air conditioning unit and incorporating air conditioning into the new ventilation system. A suspended "unit ventilator" using hot water from the boiler plant may be the best choice for this location. If the through-wall air conditioning unit is removed, that existing wall opening can be fitted with a good quality louver and outside air ducted into the unit ventilator. Air conditioning can be added to this unit ventilator either now or in the future. Estimated cost includes air condition with an exterior condensing unit.	$12,000

PART 10 – Budget Summary

HVAC Continued . . .

2. Provide a dedicated exhaust system in the kitchen area of the small meeting room in the lower level. This system to be designed and installed based on the actual use of this kitchen. The Owner will need to determine what this small kitchen is allowed to be used for. Currently, anything can be prepared in this space. As this is a "commercial", it should be fitted with a commercial exhaust hood with fire suppression system and make-up air supply. Presumably the use of this kitchen area is much more limited in scope. We would recommend that this kitchen be reserved for "serving" purposes and no greasy cooking be allowed in this space. The residential range(s) may remain. As a serving kitchen, residential-type exhaust hoods would be adequate.

Residential hoods installed over each of two ranges - using the existing exhaust ducts to the exterior of the building. New wall caps with backdraft dampers	$1,500
A commercial exhaust system, with fire suppression system and make-up air, even for this small kitchen, could run as high as indicated.	$15,000 - $18,000

PART 10 – Budget Summary

HVAC Continued . . .

3. Add a dedicated ventilation system to the lower lever large community room and kitchen. Consider abandoning the through-wall air conditioning unit and incorporating air conditioning into the new ventilation system. By current building Code, a certain quantity of outside air must be introduced into this space whenever occupants (people) are present. The quantity of outside air is proportional to the quantity of occupants. By building Code, this is a significant quantity of outside air, which results in significant heating and cooling equipment. The best combination of first cost, energy efficiency, and Code-compliant performance is likely a packaged "rooftop" air conditioning unit with gas heat. This unit would not be located on the roof, but rather on the ground just outside the community room. To meet the Code-mandated ventilation requirements, this unit would be coupled with an air-to-air energy recovery unit. Carbon dioxide sensors would be used to operate the energy recovery unit to maintain acceptable indoor conditions. Supply and return air between the Community Room and the rooftop unit would be ducted through the exterior wall, and throughout the Community Room as best possible. $35,000 - $40,000

PART 10 – Budget Summary

HVAC Continued . . .

4. Provide a commercial exhaust hood with fire suppression system over the existing cooking equipment. Currently, the Community Room kitchen is a "true" commercial kitchen with a commercial range for cooking. There is a wall-mounted exhaust fan serving this space, but there is no hood directly above the range. Under current Code, as well as for good safety practice, a true, stainless steel exhaust hood should be installed over the range. Since this is a significant expense, this would be a good time to review the cooking equipment in this kitchen. If any future revisions are expected to occur, the hood should be purchased based on the future needs. — $30,000 - $35,000

   This hood must be equipped with a fire suppression system (Ansul) and related fire safety devices. In addition, for this hood to operate correctly, adequate make-up air is required. There is not adequate "spare" make-up air in this building, so a separate make-up air unit will be required. These are generally gas-fired, heating only appliances. This unit will likely sit on the ground on the back side of the building and will supply heated air to the kitchen only when the commercial hood is in operation.

PART 10 – Budget Summary

HVAC Continued . . .

5. Provide a commercial exhaust hood over the dishwasher. At present, the dishwasher is an under-counter, commercial dishwasher. Even though this is an under-counter style dishwasher, it is common practice to install a low air volume hood over the dishwasher to collect heat and moisture and exhaust it outside as directly as possible. Generally this is a stainless steel hood of approximate 36”x36” dimensions. Control is generally “manual” and based on operation of the dishwasher by staff. $1,500

HVAC Continued . . .

6. Add outside air ventilation to the upper level. This can probably be incorporated with the existing furnaces, but likely will require an energy recovery ventilator to not over-burden the heating and cooling capacities of the furnaces. Much like the Community Room, the upper level requires outside ventilation air based on the quantity of occupants in the space. Obviously, this space can support a large quantity of occupants. If we directly connected un-tempered outside air to the existing furnace systems, we would consume the entire capacity of the furnaces to heat or cool this outside air, depending on the season and outside temperatures. $25,000 - $30,000

   To salvage the existing furnaces, and yet meet the current Code, an air-to-air energy recovery unit is recommended. This unit exhausts a certain quantity of room air through a device which tempers an equal amount of outside air. Once this outside air has been tempered, the furnaces can heat it or cool it to comfortable room temperatures. Locating this air-to-air energy recovery unit will be challenging. Unlike the lower levels, it would be preferred to have this unit closer to the furnaces. There may be an opportunity to install this unit inside the upper level floor space in the storage room on the opposite side of the large room, and duct across the attic to the furnaces.

PART 10 – Budget Summary

HVAC Continued . . .

7.	Consider removing all asbestos-containing insulation and replace with a modern fiberglass product. Although there is little "energy" benefit to replacing the asbestos-containing insulation, there is obviously a liability benefit. It appears that both pipe fittings, as well as linear runs of piping, are insulated with asbestos-containing materials. A "glovebag" technique may still be an acceptable means of removing this insulation if accomplished over a greater period of time.	$8,000 - $10,000

PART 10 – Budget Summary

ELECTRICAL

1.	Provide a new, building-wide fire alarm system with detection and notification devices to meet current Building Code and ADA requirements.	$9,000 - $10,000
2.	Provide additional (and probably replace existing) exit lights and emergency egress lighting.	$6,000 - $7,000
3.	Consider updating lighting systems. Although many fixtures within the building are fluorescent, they are old fluorescent technology using T12 lamps. New fixtures will provide better light levels and lower energy consumption. Even with the low hours of use, this item probably makes good economic sense. The following estimate is based on replacing existing fixtures with similar fixtures, or something that installs in the same location in a similar manner, using the same wiring.	$18,000 - $24,000

PART 10 – Budget Summary

ELECTRICAL

4.	Replace all exterior lighting to provide better security. Many of the exterior lighting fixtures are damaged or very antiquated. Replacement with new LED fixtures will allow these fixtures to operate all night long for security at minimal cost. Provide automated controls for these fixtures.	$5,000
5.	Provide and install GFCI-protected receptacles at all locations dictated under current Building Code. This is a low cost item and protects great safety, especially for a building used by a variety of occupants.	$1,500
6.	Consider replacing all manual lighting switches. Lighting switches do wear out. As part of this effort, install automatic occupancy-sensing switches where appropriate, such as toilet rooms and storage rooms.	$1,500 - $2,000
7.	We would recommend that a grounding conductor audit be prepared. In a facility this size, it is minimal time and effort to verify that the electrical service is properly grounded and that all feeder and branch circuit conductors have adequate grounding conductors (size, quantity, and terminations.)	$500

PART 10 – Budget Summary

FEES & MISCELLANEOUS COSTS (To be determined)

- General Contractor's O & P (15 - 17%)
- Architectural/ Engineering Fees
- Contingency Allowance
- Plumbing Plan Submittal