City of Plattsburgh

Crete Memorial Civic Center

Assessment Report

April 2016

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I. INTRODUCTION

The Crete Memorial Civic Center Assessment Report is a summary of findings of the existing mechanical, electrical, plumbing, and structural systems of the Crete Memorial Civic Center building (herein referred to as Crete Center) located at 2 Beach Road in the City of Plattsburgh, Clinton County, New York. This report also includes an evaluation of rehabilitation, redevelopment, and reconstruction of the Crete Center, and costs estimates to repair deficiencies and demolition.

Visual surveys of the Crete Center were performed on December 22, 2014 and January 14, 2015. The survey consisted of the observation of building components, systems, and elements that were easily visible and readily accessible for the purposes of identifying significant physical deficiencies. Photographs of existing systems and physical deficiencies are provided as **Attachment A**.

Prior to the site visits, original as-built drawings, dated June 30, 1972 by Sargent Webster Crenshaw & Folley, and building renovation drawings, dated May 9, 1984 by Jeremiah Oosterbaan and Rist-Frost Associates, were made available for review.

II. MECHANICAL SYSTEMS CONDITION ASSEESSMENT

The building is primarily served by six (6) electric roof top units (RTU) (Trane Intellipak, Model SHE) that condition the large 25,000 ft^2 open field area. The units are in good condition with some minor disrepair issues such as deteriorating seals around some of the roof curbs and some damaged damper blades. The interior of the units is in good condition; the coils and filters are clean and appear to have been well-maintained. The fan motor belts are tight and the coil drain pans are generally in good condition with all the P-traps functioning as intended.

Terminal equipment that serves the rest of the building includes: the ground floor office areas are served by electric fintube radiation, the stair towers are served by electric convection units, the large main lobby area by a pair of electric unit ventilators with ducted air discharge, and the areas under the spectator bleacher by a combination of electric cabinet unit heaters and electric infrared heaters. Additionally, there is office space on the second floor/mezzanine level served by electric fan coil units (Trane Climate Changer Type L-8).

The building originally had an ice rink that is no longer used and has been converted to a turf soccer field. The ice making equipment is still located in the mechanical room, abandoned in place. It is original to the building (1972), well beyond its useful life, has not been operated or maintained for several years, and is presumed to be nonoperational.

There are two electric dehumidifiers (Buffalo Forge Model J, Size 60VPO), one on the second floor storage space and one on the catwalk at the opposite end of the building. They are in average cosmetic condition, are believed to be operational, but are well past their useful life expectancy. The units were utilized for removing humidity during the era that the building was used as an ice rink and currently serve no function.

There are several concession areas and bathrooms around the perimeter of the building. The kitchen, bathroom and locker areas are separately exhausted by in-line fans (Carnes). Some of the locker exhaust fans are nonfunctional. There is also storage space at the perimeter of the building that is heated by ceiling-suspended unit heaters.

Plumbing Systems

A large area of the building's ballasted membrane roof system shows signs of repair work. Facility personnel have indicated that several leaks have occurred. The storm drain lines are suspended from the roof structure and appeared to be in average shape. According to maintenance personnel, the storm lines sag due to inadequate support, often breaking, leaking, or clogging with debris. The building is served by a 4" domestic water main line that is more than adequate for the facility's current needs. The domestic water piping system is mostly original to the building, with some rework done over the years to alleviate operational issues. Most of the service shut-off (gate) valves are very old and rusty and should be replaced.

The facility's domestic hot water needs are covered by multiple electric tank-type water heaters that are of varying ages and condition and are dispersed around the perimeter spaces.

Most of the locker/shower areas have significant plumbing fixture condition issues. A lot of the water closets, urinals, sinks, gang showers, and lavatories, non-operable, in some areas have been removed altogether, with large gaping holes left in their former location. Missing plumbing fixtures would constitute a code violation.

Electrical Service/Power/Lighting

The Crete Memorial Civic Center gets it power from Plattsburgh Municipal Electric. There is exterior medium voltage switchgear located to the East of the building that contains two, 4.8kV switches used to feed power to the Crete Building and also a 4160/480V transformer for parking lot lighting. There is also a 500kva, 4160/277/480V, pad-mounted transformer (fed from a separate primary service) on site that was installed four years ago for snowmobile races. Snowmobile races are no longer held at this venue and the transformer currently sits idle. The 4160V electric service enters the Crete Civic Center building underground from the East. In the main electric room there is a 1200A, 4.8kV rated medium voltage switch fused at 300A (per drawings provided to us). This switch in turn feeds a 1500kva, 4160/277/480V transformer; a

2000A, low-voltage switch; and a 2000A main distribution panel. The main distribution panel, with branch fused switches, feeds the multiple branch circuit breaker panels located throughout the facility.

Existing in-slab electrical outlets and enclosures, which continue to get used, are well past their useful life, have been damaged by water intrusion, and are a life safety hazard. The receptacles are in poor condition, as is the cabling feeding them.

In the main electrical room, there is a 277V Arena Lighting Control Panel that controls the lighting throughout the open arena space. Some of the lighting has been updated from the original design and the lighting control panel is not used to its full capacity, as it once was.

Fire Alarm System

The fire alarm system is a zoned system and is original to the building. Some fire alarm devices have been updated throughout the facility.

Telecommunications System

The existing telecommunications (telephone/data) system (devices/cabling) is in fair condition. The existing cabling is not installed in conduit in some locations where damage may occur.

III. STRUCTURAL ASSESSMENT

The building is just over 40 years old. The building construction consists of a main high roof, low roof areas over the locker/utility rooms, a catwalk around the inside perimeter, and a mezzanine area over the Western portion of the building.

The main roof consists of 1½ inch deep 22-gauge acoustic metal deck on 14 inch deep open web steel joists spanning 20 feet to 10 foot deep steel trusses which clear span 145 feet between columns. The 10 foot deep trusses are generally constructed of 10 inch wide flanged steel sections.

The perimeter catwalk consists of 1½ inch metal deck supported on 6 inch structural steel channels. The walking surface is the metal deck. The mezzanine area is primarily framed with 24 inch deep open web steel joists spanning to masonry bearing walls. The mezzanine floor is a 4 inch thick concrete slab. Utility room areas are framed with 16 inch or 24 inch deep open web steel joists spanning to masonry bearing walls.

The foundation system consists of a deep pile foundation system. The original structural drawings that we reviewed indicate that the piles “shall be cast-in-place concrete or structural steel H piles….required allowable bearing value for each pile is 75 tons.” There is no indication,

that we found, that shows whether they used steel or concrete piles. The pile system supports the building structural columns and a concrete foundation slab. The foundation slab is typically a 10 inch thick two-way reinforced concrete slab, but the slab does vary in thickness in locations.

Observations

We walked through the entire interior of the building, including the suspended catwalks over the open area below. We did not observe any structural issues, signs of excess deformation, or other immediately visible discrepancies with any of the structural framing. Overall, the structural framing is in excellent condition.

We did observe some minor rust stains in some areas of the main roof deck and supporting framing. We assume the roof has had some minor leaks over the years. Subsequent to our site visits, the leakage from the roof during rain events worsened and required immediate attempts to repair the leaks.

We did observe some cracking in the masonry walls at the Southwest stair enclosure. We are not sure what these are attributable to, whether some localized settlement of the foundation slab or possibly minor seismic lateral movement damage. The cracking is minor and not widespread.

IV. RENOVATION EVALUATION

Mechanical Systems

Overall, with the exception of the six (6) large, aforementioned RTU's, the heating/cooling equipment of the facility is generally beyond its useful life and will need to be upgraded in a future capital improvement project. The existing HVAC equipment does not meet the energy code requirements by today's code standards. If the building is going to be reused, the equipment will have to be replaced.

Most of the sanitary waste and drain piping is corroded and should be replaced if it is decided that the facility will be repurposed or renovated. The plumbing system, in its current condition, is not suitable for supporting the expected building functions.

The electrical equipment in the building is 1970s vintage and has reached the end of its useful life. It is recommended that the medium- and low-voltage equipment be replaced with new equipment. Some of the building lighting has been upgraded, but most fixtures are still older technology (incandescent) fixtures. It is recommended all the lighting be replaced with LED fixtures to lower the building's energy consumption. Energy savings incentives can also be obtained from NYSERDA. The existing lighting control panel shall be replaced with a new lighting

control panel, utilizing relays for lighting control. The new lighting control panel will have a much smaller footprint when compared to the existing equipment. Receptacles and wiring within the building are mostly original and have reached the end of their useful lives and are recommended to be replaced as well. In-floor receptacles should not be used until they are replaced in their entirety (receptacles and wiring). One minor violation may be the need for GFI-protected circuits for the floor-mounted receptacles, in case they wash the floor after RV shows, etc. Currently installed floor boxes have gotten wet in the past and are now rusted and could become a life safety hazard if they become wet.

The fire alarm system is recommended to be replaced with an addressable system, meeting current building code and NFPA standards.

It is recommended that the telecommunications cabling and devices be replaced and cabling installed in conduit where subject to physical damage.

Structural

Overall, the building is in excellent structural condition and there are no major structural obstacles to it being rehabilitated and renovated.

Assuming that the building does not undergo a Change of Use within the Code and stays within the same Use Category, we do not foresee any major obstacles to a major renovation of the facility. From a structural perspective, the building is in excellent condition and should continue to be a serviceable structure for many more years.

Should the building's Use Category be changed, the Building Code will require that the structural systems be analyzed and verified to conform to the current Building Code. Based on past experience, we would expect that the building's lateral systems might not meet current Code requirements for wind and seismic loading. Therefore, it is a possibility that some lateral upgrades would be required, should the building undergo a Change of Use.

We should note that the main floor, which is a 10 inch thick reinforced two-way slab supported on a pile foundation system, has an indicated live load capacity of 100 pounds per square foot. The slab was originally primarily intended for use as a hockey rink. If new interior masonry walls are introduced on the slab, or new columns or similar concentrated loads are placed on the structure, the slab will need to be analyzed for capacity.

We would recommend that the apparent roof leaks be addressed during a renovation. Additionally, it may be appropriate to consider repainting the affected areas of the roof framing to provide long-term protection of the steel.

V. COST ESTIMATES

Renovation

Renovation cost estimates are based on the site reconnaissance of the Crete Center and recommendations made in Section IV of this report. The engineer's opinion of probable construction cost is approximately $1.83 million for renovation of existing mechanical, electrical and plumbing systems. Based on the contractor's assessment of the damage, cost estimates for the replacement of the failing roof range from $800,000 to $1,000,000. Assuming a cost of $900,000 results in an inclusive cost estimate for renovation of nearly $2.73 million. This cost is an approximation and does not include costs for additional structural renovations due to the need for further structural analysis.

The electrical removal cost estimate includes costs for removing the existing electrical medium-voltage disconnect, the medium-voltage transformer, the low-voltage disconnect switch, the secondary distribution equipment, and associated electrical panels located throughout the building. It also includes demo of the lighting control panelboard, receptacles, lighting, and associated wiring and exposed conduit. Replacement of the existing fire alarm panel is also included.

The electrical installation cost estimate includes new 5kV switchgear, a new medium-voltage transformer, a new secondary disconnect switch, as well as new secondary distribution switchboards and panelboards. New receptacles and lighting will be installed along with associated cabling and conduit. A new fire alarm panel/system, lighting control panel, and PA system would also be installed. New telecommunications (telephone and data) cabling and devices would also be included in the new work.

The mechanical cost estimate covers the cost of removal of existing mechanical equipment and replacement with in-kind, similar capacity equipment that meets current code standards. Similarly the plumbing cost estimate covers the cost of removal of the outdated plumbing fixtures, along with the sanitary, vent, storm, and hot & cold water pipes and the installation of new plumbing fixtures, sanitary, vent, and supply piping.

Demolition

The estimated cost for demolition of the Crete Center is just under $1 million and was based on the building's square footage, the plans, and visual observations. As outlined in the following table, the cost includes salvage material value and hazardous materials removal/abatement. There would be some value with the large open web joists and the smaller joists. The cost estimate assumes the entire building and interior/exterior components would be

removed and disposed of. Mobilization/demobilization and disposal fees were figured into the costs.

DEMOLITION COST ESTIMATE					
Item No.	Description	Unit	Estimated Quantity	Unit Price	Price Extension
1	Mobilization and Demobilization	Lump Sum	1	5%	$ 43,240
2	Site Preparation	Lump Sum	1	2%	$ 17,296
3	Asbestos Abatement and Disposal	Lump Sum	1	$30,000	$ 30,000
4	Hazardous Material Abatement and Disposal - Ammonia Refrig. System	Lump Sum	1	$20,000	$ 20,000
5	Building Demolition	Cubic Foot	900,000	$0.30	$270,000
6	Foundation Removal and Disposal	Lump Sum	1	$125,000	$125,000
7	Roofing Removal, Handling, Transport, and Disposal	Lump Sum	1	$80,000	$ 80,000
8	Building Debris - Handling, Transport, and Disposal	Ton	1712.5	$80	$137,000
9	Hardscaping Debris - Removal, Handling, Transport, and Disposal	Ton	350	108	$ 37,800
10	Electrical Components/Transformers - Removal, Handling, Transport, and Disposal	Lump Sum	1	$50,000	$ 50,000
11	Mechanical/HVAC Components, Transformers - Removal, Handling, Transport, and Disposal	Lump Sum	1	$75,000	$ 75,000
12	Site Restoration	Lump Sum	1	$50,000	$ 50,000
13	Salvage Value - Metals	Lump Sum	1	($10,000)	$ (10,000)
				TOTAL =	**$ 925,336**

Attachment A

Photographs

View of indoor soccer playing field and spectator bleachers

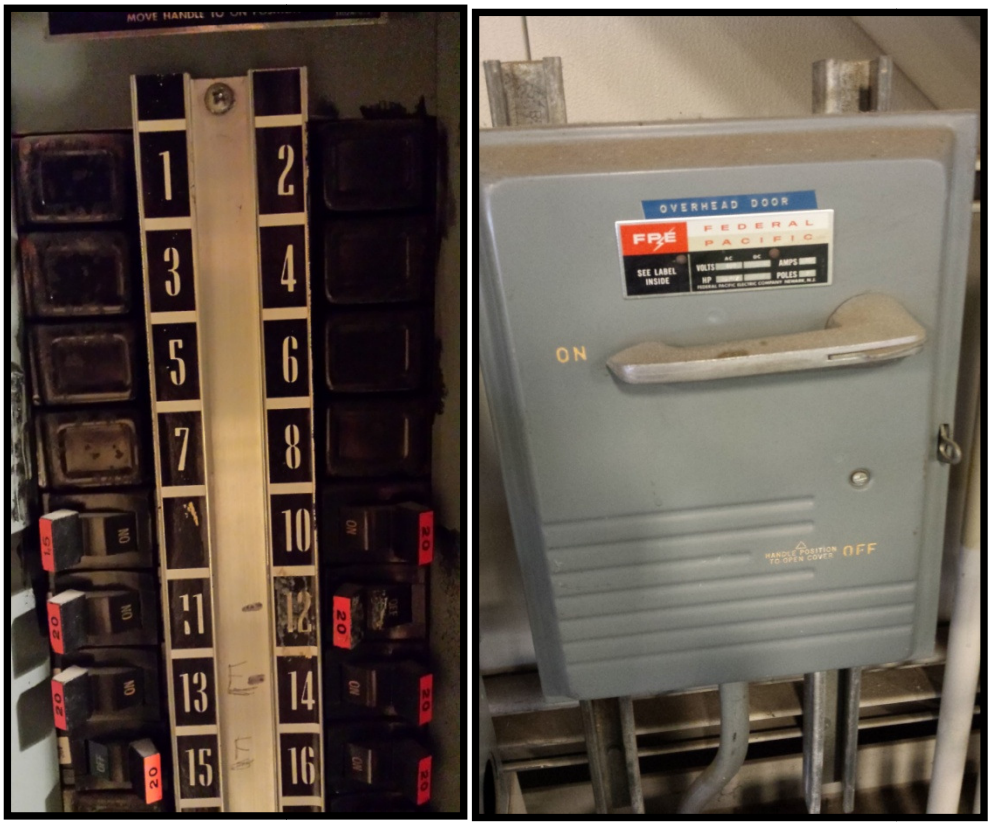
View of entrance lobby area

View of second story and lighting

Existing 5kV switch, 1500kVA Transformer (4160/277/480V), & 2000A Secondary Disconnect

Existing 2000A, 277/480V, Fused Distribution Switchgear

Existing Lighting Control Panelboard



Existing Power Panel and Disconnect Switch

Existing Zoned Fire Alarm Panel

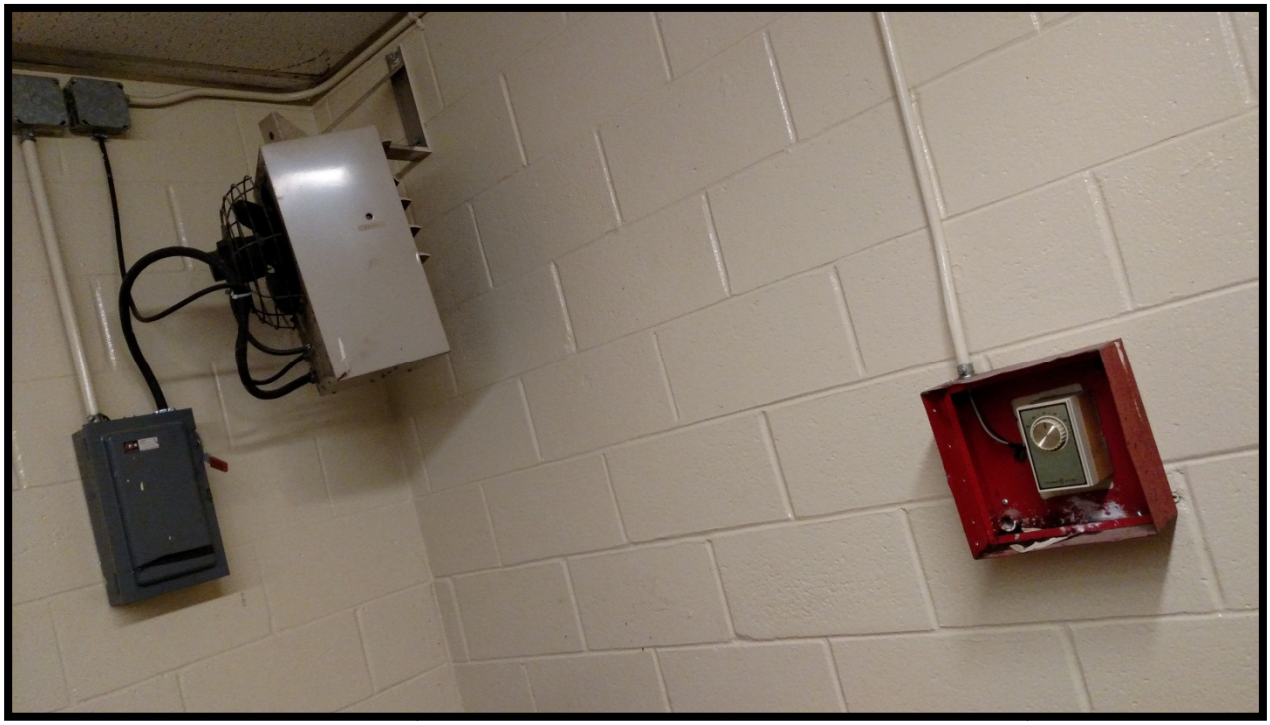
Existing In-Floor Receptacle Enclosure

Existing Roof Top Units (RTUs)

Existing RTU and abandoned piping

Existing RTU and showing curb seal deterioration

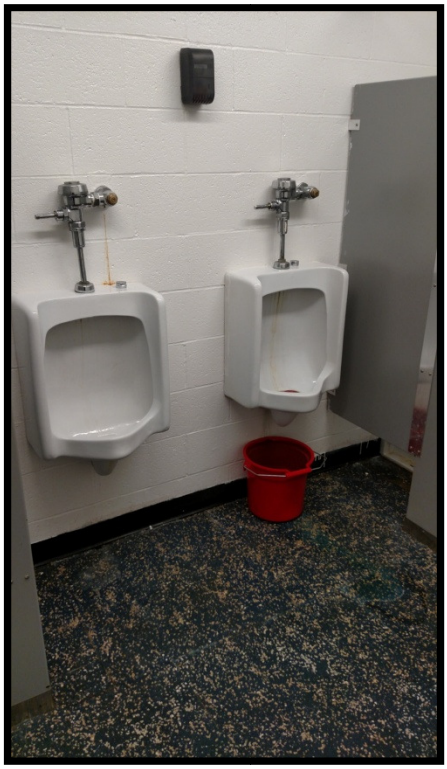
Outdated air handling unit (AHU) and dehumidifier



Existing unit heater and thermostat. Unit heater incorrectly pointed towards wall

Typical through the wall AC unit and electric baseboard heat at office areas

Typical fan coil unit behind spectator bleachers




Existing outdated plumbing fixtures.

Typical gang shower area showing shower fixture with significant rusting

Typical gang shower area showing shower fixture that has rusted away

Abandoned in place ice making equipment

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