



City of Cordova

Multi-Building Condition Assessment: Fire Department Sub Station Building

Prepared For:



Prepared By:



800 F Street
Anchorage, AK 99501

Nicholas Krysinski, PE, Mechanical
Dave Booker, PE, SE, Structural
Mark Graham, Electrical
Derek Tannahill, PE, Civil
Dave Dreher, AIA NCARB, Architect
Kent Gamble, Estimator

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1. INTRODUCTION

The City of Cordova engaged Coffman Engineers and Burkhart Croft Architects to assess and report on the condition of City-owned buildings and structures to establish a baseline of their current assets, and better forecast future needs.

The team performed a multi-discipline condition assessment of thirteen facilities including:

1. Bob Korn Memorial Swimming Pool
2. Bidarki Recreation Center
3. Eyak Skaters Cabin
4. Cordova Jr/Sr High School
5. Odiak Pond Gazebo and Boardwalk
6. Odiak Camper Park Restroom
7. Parks and Recreation Maintenance Shop
8. City Maintenance Shop
9. Ballfield Restroom / Concession Stand
10. Cordova Chamber of Commerce
11. Hollis Heinrichs Park Restroom
12. Flemning Spit Restroom
13. Fire Department Sub Station Building

The team also visited the Prince William Sound Science Center and evaluated the feasibility of relocating the building to a new site.

The team consisted of an architect, civil, structural, mechanical, electrical engineers, and a cost estimator.

Due to the amount of information and quantity of sites, a separate report has been developed for each facility. This condition assessment report is for the Fire Department Sub Station building.

2. EXECUTIVE SUMMARY

The Fire Department Sub Station Building was evaluated by the team on November 18, 2022. This report provides:

- ▶ A description and assessment of the various building components.
- ▶ A list of deficiencies, ordered by urgency for repair or correction.
- ▶ Rough order of magnitude cost estimate for the listed deficiencies, as well as building replacement.
- ▶ A routine and preventative maintenance plan.

This building was added to the project scope because it has a subsidence problem in the northeast corner. The most significant recommendation is to inject foam into the soil in the area of subsidence. Other recommendations include minor fuel tank and piping corrections, minor siding and maintenance items, and a lighting upgrade.

3. FIRE DEPARTMENT SUB STATION BUILDING

3.1. Description and Summary

The Fire Department Sub Station Building is a pre-engineered metal building from 2001. It serves as Sub Station for fire trucks and firefighting equipment.

3.2. Building System Assessments

3.2.1. Architectural

3.2.1.1. IBC Code Summary

Model Code Application

This facility was constructed under the *Uniform Building Code* in effect prior to 2000. Since 2000, the *Uniform Building Code* has been replaced by the *International Building Code (IBC)* family as the acting model building code in Alaska. Assessment below is based on the 2021 IBC (current version adopted by the State).

There were no issues with either building construction materials, or use found during the inspection. In its current condition, the building is constructed out of all non-combustible materials. This would classify it as a Type II-B Construction. The Fire Department did mention wanting to add a wood framed mezzanine, similar to the Parks and Recreation shop. There is no code driven limitations to constructing a wood framed mezzanine in this facility. It will force the building classification into Type V-B Construction, but the building area is well below allowable square footage. Note, in order to still qualify as a mezzanine, the floor area of the mezzanine cannot exceed 1/3 of the first-floor area.

Occupancy Groups

Storage Area: All portions of this facility are designated as an “S-1” Storage Occupancy. Storage occupancies are further broken down in S-1 & S-2. S-1 would generally be for vehicular maintenance facilities and storage of flammable goods. From our inspection, the more restrictive S-1 is reasonable for this facility due to the amount of vehicular storage.

Egress System

The existing egress system appears to be adequate in terms of number of exit points, exiting logic, and egress width. There are two exit doors serving this facility and are on opposing walls.

3.2.1.2. Sprinkler System Protection

General

No Fire Suppression system is installed in this facility, and there are no requirements for one either.

3.2.1.3. Accessibility / ADA / ANSI A117 Compliance

3.2.1.4. General

This facility is used by the City of Cordova Fire Department. The general nature of this building is to support of abled bodied fire fighters use. No accessibility recommendations are being made for this facility.

3.2.1.5. Building Exterior

This building is a traditional PEMB (pre-engineered metal building). This is a metal framed structure, clad with uninsulated metal wall and roof panels. Thermal insulation is batt or fiber insulation placed between poly or vinyl film. This serves as both the weather and vapor barriers. This building was provided by R&M Steel Company out of Idaho. The owner is slowly adding wall protection around the perimeter of the building. It appears progress was stopped once building settlement started to occur. The building is in very good shape considering its age. The deficiencies present in the facility that need to be addressed are as follows:

- ▶ *There has been major settlement in one corner of the building. Correction recommendations and a more detailed summary are included in Structural.*
- ▶ *No specific damage was observed in the insulation blankets. If damage is encountered, it is to be repaired with tape or membrane as discovered, especially at time of wall protection installation since it would be concealed after installation.*
- ▶ *It appears that the footing and concrete slab work is oversized for the building. This does not allow for a proper drip edge or closure. The user stated that they get large amounts of water coming in from the wall base. Correction is new metal flashing. It appears that the fasteners at the bottom could be removed, and new metal flashing added. A small area should be selected to serve as a test area. If this is not feasible, the bottom 12-inches should be removed from the perimeter of the building. See Options 1&2.*
- ▶ *Windows are all vinyl, no hardware deficiencies were noted, but moss should be washed out of the perimeter tracks.*
- ▶ *The wall deflector for the heater was not present, it's caused decay and damage to the siding. The siding should be prepped and painted to stop future deterioration. A stainless deflector should be added.*
- ▶ *There is a 6" standpipe in the northeast corner that drains to the nearby creek. Recommend abandoning in place or filling with material, and decommissioning.*

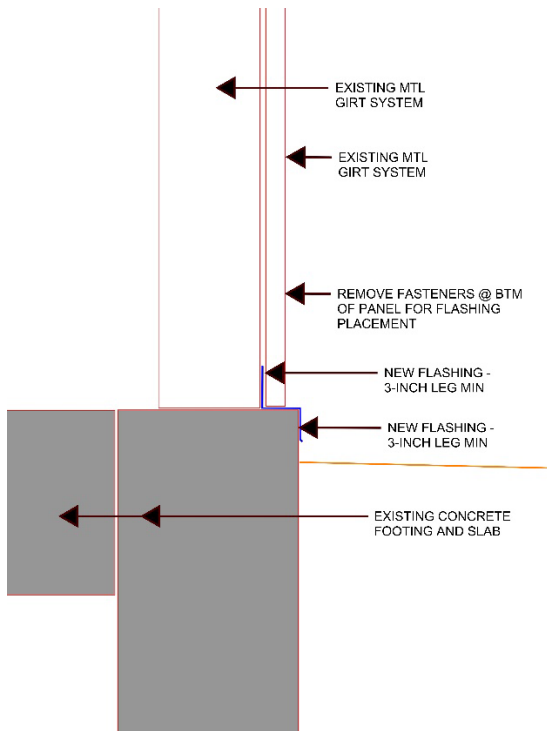


Fig. 1. *Flashing Option 1*

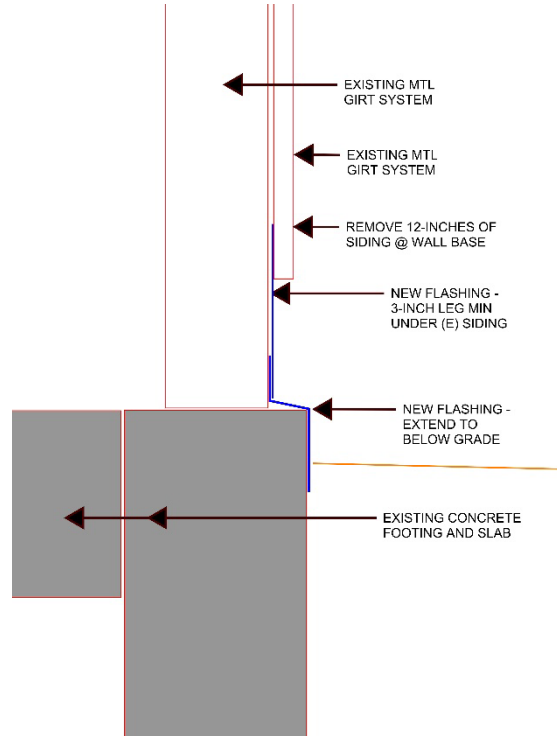


Fig. 2. *Flashing Option 2*



Fig. 3. *Metal Wall Panel Typical Condition*



Fig. 4. *Existing Windows*



Fig. 5. Missing Heat Deflector and Damage

3.2.2. Structural

The Mile 4.5 Fire Equipment Sub Station Building is a pre-engineered metal building supported by a thickened edge beam foundation. The building record drawings are dated 2001 and the outside dimensions are 40-feet x 3-inches by 60-feet x 3-inches with an eave height of 18-feet x 0-inches. The foundation appears to have a 6-inch concrete slab on grade with 16-inch deep thickened edge foundation. Record drawings indicate a concrete stem wall with continuous spread footing around the perimeter, which doesn't seem to have been constructed. The building enclosure is metal roofing and siding with plastic sheeting covered fiberglass batt insulation attached to cold formed zee-purlins and girts. The building has a gable roof and is supported by steel moment frames perpendicular to the ridge with tension-only rod cross bracing along the eave walls and roof. The building was filled with fire equipment at the time of the site visit. Where observable, the floor slab is in good condition with only minor surface cracking.

The fire department was in the process of adding wall sheathing to the inside face of the walls when it was discovered that the floor slab has settled in the northeast corner, approximately 12-inches compared to the rest of the building. The slab slope is essentially uniform from the center of the building to the lowered northeast corner. The department has since stopped the wall sheathing installation and is awaiting foundation repairs before proceeding and adjusting the building tension-only bracing. The fire department indicated there is a 6" standpipe in the northeast corner of the building, which should be filled in.

We have contacted a general contractor experienced in raising slabs and foundations such as this for a construction estimate to include in our repair estimates. We recommend the soil around the thickened slab edge foundation be injected with polyurethane to a depth of 5 to 6-feet to stabilize the pad and then mechanically raise the slab edges back to level using hydraulic jacks. Once level, the voids between the bottom of slab/footings and gravel pad should also be injected with polyurethane for support. Port holes drilled through the slab will enable the polyurethane to be installed below the interior slab. The plywood panels installed on the walls should be removed prior to the foundation leveling and should be replaced after leveling is

completed. The building diagonal rod wall and roof bracing will also need to be retightened after the floor leveling is complete.



Fig. 6. Interior View Along North Half



Fig. 7. Northeast Corner – Note standpipe

Fig. 8.

Fig. 9.

3.2.3. Civil

The building site is a gravel pad placed in a clearing on the east side of the Copper River Highway. The pad is approximately 150-feet square with the building situated in the northeast corner about 15-feet from the pad shoulders. The building pad is approximately level with the road and is about 6-feet thick along the eastern edge. A drainage ditch has been excavated along the northern edge which follows the pad outline turning south at the northeast corner and flowing in the forested area to Eyak Lake.



Fig. 10. West Side of Fire War Storage Building



Fig. 11. Drainage Ditch Along North Side



Fig. 12. East Edge of Building and Pad

3.2.4. Mechanical

This building is heated by two Tototomi oil fired heaters, which are fed by an above ground fuel oil tank that is located on a stand along the backside of the building. The equipment appears in good condition. The exhaust discharge from each heater terminates almost flush with the exterior metal siding and is causing staining and corrosion. The heater along the back wall of the building showed evidence of an exhaust leak on the flue pipe. It may or may not have been corrected, but should be checked and repaired if needed.

The fuel piping from the tank to the building has a filter in the South East corner of the building. There did not appear to be a fuel shutoff valve at each heater connection, a ball valve shutoff should be installed at each heater.

There is no ventilation in this building. Mechanical ventilation is not required as this building is only used for storage and is not an occupied space other than moving vehicles and items into and out of the building. There are destratification fans to help keep the heat blended.



Fig. 13. Oil-fired Toyostove



Fig. 14. Stove flue discharge 1



Fig. 15. Stove flue discharge 2



Fig. 16. Evidence of exhasut leak on flue



Fig. 17. Destratification fan



Fig. 18. Fuel piping

3.2.5. Plumbing

There is no plumbing in this building.

3.2.6. Fire Protection

From the *2021 International Building Code*, this building would be classified as an S-1 occupancy. The building stores and provides repairs for the Cordova Fire Department.

Per Section 903 of the *2021 International Building Code*, an automatic sprinkler system is not required.

Per Section 907 of the *2021 International Building Code*, a fire alarm system is not required.

From the *2021 International Fire Code*, above-ground tanks storing Class IIIB liquids are required to be UL 142 listed.

Tanks that are protected above-ground are required to be a minimum of 5 feet away from any building, 25 feet away from the nearest fuel dispenser, 15 feet from the lot line, 5 feet away from the nearest public way, and 3 feet away from other tanks. Above-ground tanks are required to be protected by guard posts or another approved method unless the tanks are listed as a protected above-ground tank. Above-ground tanks are required to be provided with drainage control / secondary containment.

The 300-gallon tank located on the exterior part of the building is not protected by an approved method, is within 5 feet of the building, and is not provided with secondary containment.

- *Provide code-compliant distances between above-grade outdoor storage tank and lot lines, public way, and other tanks.*



Fig. 19. 300 gallon waste oil tank.



Fig. 20. Storage for fire department truck and building materials.

3.2.7. Electrical

The facility is served by a 240/120V, single phase, 3-wire, 100A electrical service provided by Cordova Electric Co-Op. The incoming utility service equipment, including current transformer (CT) cabinet, disconnect switch, and meter socket are wall mounted on the exterior of the building.

Distribution for the building is provided via a 100A, 240/120V, single phase, 3-wire panelboard located on the wall adjacent to the front door. The main panelboard sub feeds a 100A panel located on the back wall. The main panelboard is missing circuit breaker cover plates which exposes a portion of the main electrical bus. The electrical distribution system is generally in good condition.

There are no arc flash labels on the electrical panels and equipment. It is recommended that an Arc Flash Risk Assessment be performed on power systems for employee safety and compliance with The Occupational Safety and Health Administration (OSHA) regulations. OSHA requires that employers provide a place of employment which is free from recognized hazards that are likely to cause death or serious physical harm to employees. OSHA also requires that employers employ safety-related work practices to prevent electrical shock or other injuries resulting from direct or indirect electrical contact.

Lighting within the building is from high bay suspended HID lights which is inefficient and has a long start up time.

Exterior lighting is wall mounted LED lights. The exterior lights appear to be in good condition.

It was mentioned by the users that it was desired to build car ports on each side of the building to provide covered parking for vehicles. This would require two new exterior rated, surface mounted LED light fixtures in each car port bay.



Fig. 21. Front elevation with lights above door



Fig. 22. Electrical service equipment



Fig. 23. Main panel with missing circuit breaker covers



Fig. 24. Interior HID lighting

3.2.8. Deficiencies and Recommendations

The following list of deficiencies and items requiring maintenance are grouped into four categories: Life Safety, Structural, Code Compliance, and Maintenance or Facility Improvements. A rough order of magnitude cost is included but does not factor into the order in this list. See Appendix C for detailed cost estimate information.

Total building replacement, including demolition of the existing facility is estimated to cost \$4,139,774. The total cost of all recommendations below is \$151,400.

3.2.9. Life Safety Recommendations

Some of the recommendations below relate to life safety, however, there are no specific deficiencies warranting immediate action.

3.2.10. Phase 1

1. **Fuel Tank Location.** Move the fuel oil tank away from build to provide 5-feet of clearance required by code.

Estimated Cost: \$7,939

2. **Fuel Piping.** Provide a fuel filter between the tank and heaters. There also did not appear to be a fuel shutoff valve at each heater connection, one should be installed at each heater.

Estimated Cost: \$2,052

3. **Foam injection under slab.** Inject foam under slab per the structural description in section 3.2.2 of this report.

Estimated Cost: \$90,222

4. **Main Panel repair.** Install circuit breaker blank space covers to panel. This is a minor repair to fix a safety issue. Also provide typed panel schedules for each panelboard showing current circuiting.

Estimated Cost: \$960

Total Cost Phase 1: \$101,200

3.2.11. Phase 2

1. **Facility Maintenance – Base Flashing.** It appears that the footing and concrete slab work is oversized for the building. This does not allow for a proper drip edge, or closure. The user stated that they get large amounts of water coming in from the wall base. Correction is new metal flashing. It appears that the fasteners at the bottom could be removed, and new metal flashing added. A small area should be selected to serve as a test area. If this is not feasible, the bottom 12-inches should be removed from the perimeter of the building. See Options 1&2.

Estimated Cost: \$5,881

2. **Facility Maintenance.** Windows are all vinyl, no hardware deficiencies were noted, but moss should be washed out of the perimeter tracks.

Estimated Cost: \$1,471

3. **Facility Maintenance.** The wall deflector for the heater was not present, it's caused decay and damage to the siding. The siding should be prepped and painted to stop future deterioration. A stainless deflector should be added.

Estimated Cost: \$4,052

Total Cost Phase 2: \$11,400

3.2.12. Phase 3

4. **Interior lighting upgrade** Replace the high bay HID lights with suspended high bay LED lights. The LED lighting will improve the quality of lighting, will turn on instantly (no warm up time like HID) and reduce energy and improve maintenance.

Estimated Cost: \$22,828

5. **Car Port Exterior lighting.** If car ports are constructed, install surface mounted, exterior rated LED lights with integrated photo cell and occupancy sensors for control. We estimate two lights required per car port.

Estimated Cost: \$11,182

6. **Arc Flash Risk Assessment.** Recommend an Arc Flash Risk Assessment is performed on power systems for employee safety and compliance with OSHA regulations. Install arc flash hazard labels to all panels and equipment per NEC 110.16.

Estimated Cost: \$4,799

Total Cost Phase 3: \$38,800

APPENDIX A – EQUIPMENT CONDITION AND LIFE EXPECTANCY

Major HVAC Equipment List				
Equipment	Description	Age (yrs)	Life Expectancy (yrs) ¹	Notes
Fuel oil space heaters	Toy stove, model Laser 730	Unknown	20	Both units appear to be in good condition, show signs of minor corrosion.
1. Life expectancy is based on the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE) 2019 Applications Handbook, Chapter 38, Table 4: Comparison of Service Life Estimates. These values are based on historical survey data, and are heavily dependent on maintenance, usage, cycling, and application, but form a basis to accompany site observation notes.				

APPENDIX B – ROUTINE MAINTENANCE TASKS

Terminal Heating Units Maintenance				
Item No.	Inspection Task	Maintenance Task	Frequency	Recommended Action
Mechanical				
a	Check fans, wiring, and vent systems for damage.	Correct as needed. Clean housing, and tighten connection as needed. Clean or replace air filter.	Semiannually	Repair or replace.
b	Check and adjust manifold gas pressure.	Adjust as needed to restore proper flow.	Semiannually	Repair or replace.
c	Inspect all gas connections for proper fitting.	Adjust as needed.	Semiannually	Repair or replace.
d	Inspect that the motor shaft turns correctly and power connections.	Adjust as needed.	Annually	Repair or replace.
e	Examine thermostats for correct temperature settings and connectivity.	Verify that unit kicks on with temperature adjustment.	Annually	Repair or replace.
f	Inspect burner tubes.	Correct as needed. Clean housing, and tighten connection as needed. Clean or replace air filter.	Annually	Repair or replace.
g	Verify venting system is free of obstructions.	Clean as needed.	Annually	Repair or replace.
h	Inspect for condensate leaks.	Verify lines do not have any damage.	Annually	Repair or replace.
i	Check for signs of water stain or rusting.	Note any stains or rusting.	Annually	Repair or replace.

Electrical Equipment Maintenance					
Item No.	Inspection Task	Maintenance Task	Frequency	Recommended Action	Reference
Electrical					
a	Panelboard enclosure inspection	Visual inspection	Semiannually	Clean and verify proper operation. Repair or replace.	NFPA 70B:15.2.6 thru 15.2.7.2
b	Molded case circuit breaker inspection	Visual inspection	every 3 years	Repair or replace.	NFPA 70B:17.7 thru 17.11
c	Molded case circuit breaker inspection	electrical test	3-5 years	Repair or replace.	NFPA 70B: 11.10.5
d	Rotating equipment	Visual mechanical and electrical inspection, cleaning and testing	Annually	Repair or replace.	NFPA 70B: 26.7, 8.7, 25.3, 25.4, 25.5
e	wiring devices, receptacles, snap switch, attachment plugs, connector bodies	inspection, operational check	monthly and when used	Repair or replace.	NFPA 70B: 24.2.1 thru 24.6, 24.3.1, 24.3.2
f	Power cables, inspection	Visual inspection	Annually	Repair or replace.	NFPA 70B: 19.2
g	Power cables, testing	electrical testing	every 3 years	Repair or replace.	NFPA 70B: 19.5, 11.9.2.4
h	Light fixtures, inspection and cleaning	cleaning, inspection, testing	Annually	clean fixture lenses, test lamps and ballasts, relamp	NFPA 70B: 23
i	Emergency lighting monthly test and inspection	test lighting, inspection, repair	monthly	30 second test emergency lighting every 30 days for required illumination, repair or replace. Maintain records of testing.	NFPA 101
j	Emergency lighting yearly test and inspection	test lighting, inspection, repair	Annually	90 minute test emergency lighting annually for required illumination to simulate long term emergency, repair or replace.	NFPA 101

APPENDIX C – COST ESTIMATE

MULTI-BUILDING CONDITION ASSESSMENTS
CONSTRUCTION COST ESTIMATE (REVISION 2)

CITY OF CORDOVA
FIRE DEPARTMENT WARM STORAGE
CORDOVA, ALASKA

PREPARED FOR:

Coffman Engineering
800 F Street
Anchorage, Alaska 99501

March 3, 2023



NOTES REGARDING THE PREPARATION OF THIS ESTIMATE

DRAWINGS AND DOCUMENTS

Level of Documents: (18) condition assessment document, record drawings, and narratives
Date: Undated
Provided By: Coffman Engineers of Anchorage, Alaska

RATES

Pricing is based on current material, equipment and freight costs.

Labor Rates: A.S. Title 36 working 60 hours per week
Premium Time: 16.70% (included with unit rates)
Subcontractor Mark-Up: 35.00%
Estimator's Contingency: 30.00%
Unique Market Risk: 5.00%
General Conditions, Overhead, and Profit: 45.00%
Escalation to Summer 2024 at 7.91% per Annum (16 Months): 10.55%
A/E Design Fee: 12.00%

BIDDING ASSUMPTIONS

Contract: Standard construction contract without restrictive bidding clauses
Bidding Situation: Competitive bid assumed
Start of Construction: Summer 2024
Note: Quantities, qualities, and conditions are assumed when not directly provided in narrative.

EXCLUDED COSTS

1. Administrative and management costs
2. Furniture, furnishings and equipment (except those specifically included)
3. Remediation of contaminated soils or abatement of any hazardous materials

HMS Project No.: 22130-M

NOTES REGARDING THE PREPARATION OF THIS ESTIMATE (Continued)

GENERAL

When included in HMS Inc.'s scope of services, opinions or estimates of probable construction costs are prepared on the basis of HMS Inc.'s experience and qualifications and represent HMS Inc.'s judgment as a professional generally familiar with the industry. However, since HMS Inc. has no control over the cost of labor, materials, equipment or services furnished by others, over contractor's methods of determining prices, or over competitive bidding or market conditions, HMS Inc. cannot and does not guarantee that proposals, bids, or actual construction cost will not vary from HMS Inc.'s opinions or estimates of probable construction cost.

This estimate assumes escalation based on a 12-month rolling average of the U.S. Consumer Price Index. HMS Inc. will continue to monitor this, as well as other international, domestic and local events, and the resulting construction climate, and will adjust costs and contingencies as deemed appropriate.

Due to the lingering effects of the COVID-19 pandemic on the global supply chain and labor market, as well as ongoing geopolitical impacts to energy prices, HMS Inc. has included an additional contingency titled 'Unique Market Risk'. This amount provided for in the estimate will be adjusted as the situation continues to change and the effect on construction pricing becomes better understood.

GROSS FLOOR AREA

Total Gross Floor Area:

2,425 SF

HMS Project No.: 22130-M

CONDITION ASSESSMENT GENERAL COST SUMMARY

TOTAL BUILDING REPLACEMENT	\$ 4,139,774
DEFICIENCIES	61,164

HMS Project No.: 22130-M

<i>TOTAL BUILDING REPLACEMENT</i>	<i>QUANTITY</i>	<i>UNIT</i>	<i>UNIT RATE</i> \$	<i>TOTAL</i> \$
Demolish existing structure	43,650	CF	0.45	19,643
Demolish building substructure	2,425	SF	1.10	2,668
New warm storage facility	2,425	SF	450.00	1,091,250
Site work as needed to support new structure	1	LOT	50000.00	50,000
Load and haul debris	135	LDS	650.00	87,750
<i>SUBTOTAL:</i>				<i>\$ 1,251,311</i>
Subcontractor's Overhead and Profit on Material and Labor	35.00%			437,959
<i>SUBTOTAL:</i>				<i>\$ 1,689,270</i>
General Requirements, Overhead, and Profit	45.00%			760,172
Estimator's Contingency	30.00%			734,833
Unique Market Risk	5.00%			159,214
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			352,738
A/E Design Fee	12.00%			443,547
<i>TOTAL ESTIMATED COST:</i>				<i>\$ 4,139,774</i>

HMS Project No.: 22130-M

CONDITION ASSESSMENT COST SUMMARY

		<i>Total</i>
PHASE 1		
Deficiency 1 - Fuel Tank Location		\$ 7,939
Deficiency 2 - Fuel Piping		2,052
Deficiency 3 - Foam Injection Under Existing Slab	Price Per Designer	
Deficiency 4 - Main Panel Repair		960
PHASE 2		
Deficiency 5 - Install Base Flashing		5,881
Deficiency 6 - Facility Maintenance		1,471
Deficiency 7 - Facility Maintenance		4,052
Deficiency 8 - Interior Lighting Upgrade		22,828
Deficiency 9 - Carport Lighting		11,182
Deficiency 10 - Arc Flash Assessment		4,799
TOTAL ESTIMATED CONSTRUCTION COST:		\$ 61,164

HMS Project No.: 22130-M

PHASE 1				
Deficiency 1 - Fuel Tank Location	QUANTITY	UNIT	UNIT RATE \$	TOTAL \$
Install support pad for tank stand at new location	1	EA	600.00	600
Drain and relocate existing tank and support structure	1	EA	1500.00	1,500
Extend existing fuel supply line	10	LF	30.00	300
SUBTOTAL:				\$ 2,400
Subcontractor's Overhead and Profit on Material and Labor	35.00%			840
SUBTOTAL:				\$ 3,240
General Requirements, Overhead, and Profit	45.00%			1,458
Estimator's Contingency	30.00%			1,409
Unique Market Risk	5.00%			305
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			676
A/E Design Fee	12.00%			851
TOTAL ESTIMATED COST:				\$ 7,939

HMS Project No.: 22130-M

PHASE 1				
Deficiency 2 - Fuel Piping	QUANTITY	UNIT	UNIT RATE \$	TOTAL \$
New fuel filter	1	EA	120.00	120
New shut-off valve cut into existing fuel line	2	EA	250.00	500
SUBTOTAL:				\$ 620
Subcontractor's Overhead and Profit on Material and Labor	35.00%			217
SUBTOTAL:				\$ 837
General Requirements, Overhead, and Profit	45.00%			377
Estimator's Contingency	30.00%			364
Unique Market Risk	5.00%			79
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			175
A/E Design Fee	12.00%			220
TOTAL ESTIMATED COST:				\$ 2,052

HMS Project No.: 22130-M

<i>PHASE 1</i>	<i>QUANTITY</i>	<i>UNIT</i>	<i>UNIT RATE</i>	<i>TOTAL</i>
<i>Deficiency 3 - Foam Injection Under Existing Slab</i>			\$	\$

Note: Cost per general contractor quote provided to designer.

TOTAL ESTIMATED COST:

HMS Project No.: 22130-M

PHASE 1				
Deficiency 4 - Main Panel Repair	QUANTITY	UNIT	UNIT RATE \$	TOTAL \$
Install cover at empty breaker space	4	EA	35.00	140
Provide new typed panel schedule	2	EA	75.00	150
SUBTOTAL:				\$ 290
Subcontractor's Overhead and Profit on Material and Labor	35.00%			102
SUBTOTAL:				\$ 392
General Requirements, Overhead, and Profit	45.00%			176
Estimator's Contingency	30.00%			170
Unique Market Risk	5.00%			37
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			82
A/E Design Fee	12.00%			103
TOTAL ESTIMATED COST:				\$ 960

HMS Project No.: 22130-M

PHASE 2				
Deficiency 5 - Install Base Flashing	QUANTITY	UNIT	UNIT RATE \$	TOTAL \$
Install base flashing	200	LF	12.00	2,400
SUBTOTAL:				\$ 2,400
General Requirements, Overhead, and Profit	45.00%			1,080
Estimator's Contingency	30.00%			1,044
Unique Market Risk	5.00%			226
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			501
A/E Design Fee	12.00%			630
TOTAL ESTIMATED COST:				\$ 5,881

HMS Project No.: 22130-M

PHASE 2				
Deficiency 6 - Facility Maintenance	QUANTITY	UNIT	UNIT RATE \$	TOTAL \$
Remove moss from window tracks	8	MH	75.00	600
SUBTOTAL:				\$ 600
General Requirements, Overhead, and Profit	45.00%			270
Estimator's Contingency	30.00%			261
Unique Market Risk	5.00%			57
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			125
A/E Design Fee	12.00%			158
TOTAL ESTIMATED COST:				\$ 1,471

HMS Project No.: 22130-M

PHASE 2				
Deficiency 7 - Facility Maintenance	QUANTITY	UNIT	UNIT RATE \$	TOTAL \$
Prep and paint siding at wall heater area of damage (allowance)	500	SF	2.00	1,000
Install new heat deflector	1	EA	225.00	225
SUBTOTAL:				\$ 1,225
Subcontractor's Overhead and Profit on Material and Labor	35.00%			429
SUBTOTAL:				\$ 1,654
General Requirements, Overhead, and Profit	45.00%			744
Estimator's Contingency	30.00%			719
Unique Market Risk	5.00%			156
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			345
A/E Design Fee	12.00%			434
TOTAL ESTIMATED COST:				\$ 4,052

HMS Project No.: 22130-M

PHASE 2				
Deficiency 8 - Interior Lighting Upgrade	QUANTITY	UNIT	UNIT RATE \$	TOTAL \$
Remove high bay light fixture	6	EA	250.00	1,500
New LED high bay light fixture at existing location	6	EA	650.00	3,900
Allowance for scaffolding rental	1	LOT	1500.00	1,500
SUBTOTAL:				\$ 6,900
Subcontractor's Overhead and Profit on Material and Labor	35.00%			2,415
SUBTOTAL:				\$ 9,315
General Requirements, Overhead, and Profit	45.00%			4,192
Estimator's Contingency	30.00%			4,052
Unique Market Risk	5.00%			878
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			1,945
A/E Design Fee	12.00%			2,446
TOTAL ESTIMATED COST:				\$ 22,828

HMS Project No.: 22130-M

PHASE 2				
Deficiency 9 - Carport Lighting	QUANTITY	UNIT	UNIT RATE \$	TOTAL \$
Exterior LED light fixture with integral photocell	4	EA	470.00	1,880
Conduit and conductor	100	LF	15.00	1,500
SUBTOTAL:				\$ 3,380
Subcontractor's Overhead and Profit on Material and Labor	35.00%			1,183
SUBTOTAL:				\$ 4,563
General Requirements, Overhead, and Profit	45.00%			2,053
Estimator's Contingency	30.00%			1,985
Unique Market Risk	5.00%			430
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			953
A/E Design Fee	12.00%			1,198
TOTAL ESTIMATED COST:				\$ 11,182

HMS Project No.: 22130-M

PHASE 2				
Deficiency 10 - Arc Flash Assessment	QUANTITY	UNIT	UNIT RATE \$	TOTAL \$
Perform arc flash assessment on existing electrical service and distribution equipment	1	LOT	1250.00	1,250
Install hazard label	4	EA	50.00	200
SUBTOTAL:				\$ 1,450
Subcontractor's Overhead and Profit on Material and Labor	35.00%			508
SUBTOTAL:				\$ 1,958
General Requirements, Overhead, and Profit	45.00%			881
Estimator's Contingency	30.00%			852
Unique Market Risk	5.00%			185
Escalation to Summer 2024 at 7.91% per Annum (16 Months)	10.55%			409
A/E Design Fee	12.00%			514
TOTAL ESTIMATED COST:				\$ 4,799

Seismic Solutions LLC

P.O. Box 111725
Anchorage, AK. 99511

Estimate

Date	Estimate #
1/20/2023	2296

Name / Address
Coffman Engineers Inc. David Booker 800 F St. Anchorage, Ak. 99501

			Project
Description	Qty	Cost	Total
Cordova Fire Station: Mobilization Cost.		10,375.00	10,375.00
Level a 20' by 30' corner of the building footer using 20 ton jacks and stabilizing the soil with foam. General Services: To stabilize the soil we will install 5 foot stingers every five feet along the wall below the footer and inject our ground stabilizing foam. Then we will dig below footer every 5 feet and install the 20 ton jacks and level the footer. When leveled we will fill the voids with stabilization foam.	11	2,456.00	27,016.00
Fill void in a 20' by 30' area were the under ground tank is and inject the remaining footer around the building with ground stabilization foam.	400	40.00	16,000.00
Thank you for your consideration.		Total	\$53,391.00