RFQ 24-002
CDBG-MIT GRANT
ENGINEER/ARCHITECT

Addendum #1
Questions and Answers

1) QUESTION:

Are the listed individual estimates per project recommended budgets of parts and labor or totals for the completed projects?

ANSWER:

The amounts listed are the total grant award amounts*. Just a reminder, the RFQ submittals shall not include any cost estimates or quotations.* Any costs over the total grant award will be negotiated prior to the start of the project.

2) QUESTION:

In order to estimate required parts and labor per project, is the City of Sebring able to share further project specs, photos, addresses and/or related details and if so, when will these be made available? Through what avenue please?

ANSWER:

Please see attached additional details and photos for each project*. Just a reminder, the RFQ submittals shall not include cost estimates or quotations.* Any changes or clarification will be answered via addendum to the RFQ.

3) QUESTION:

If a contracting team is interested in all 9 projects, is it preferred by the City of Sebring that we submit individual bids, one aggregate bid or a proposal which includes both?

ANSWER:

Please submit one response per Firm. Only list proposed project(s) within your submittal.

4) QUESTION:

Will the City of Sebring be permitting site visits and if so when in the bidding process will the permissions and corresponding address details be made available? Through what avenue please?

ANSWER:

The City has no plans to schedule site visits. Any changes to our plans or the RFQ document will be made known to vendors as an addendum.

5) QUESTION:

Given the scope of work, particularly on the Terracota pipe and 79 manhole covers, is the City of Sebring considering an extension to its Feb. 8 submission window?

ANSWER:

The City is granting an extension to the RFQ submission deadline. The new deadline is: Thursday, February 22, 2024 at 3:00 pm.

Sealed qualifications proposals must be marked with the RFQ number and delivered to the **City of Sebring Purchasing Office Attn: Jamee Cook, Purchasing Agent, 368 S. Commerce Ave., Sebring, FL 33870** so as to reach the said office no later than **3:00 p.m., Thursday, February 22, 2024**, of the official time clock in the purchasing office, at which time they will be opened.

ACKNOWLEDGEMENT

It is the vendor's responsibility to ensure their receipt of all addenda, and to clearly acknowledge all addenda within their initial bid or proposal response in the space provided on the Submittal Checklist included in the original solicitation document. Failure to do so may subject the bidder to disqualification.

SEBRING AIRPORT WATER PRODUCTION FACILITY PROJECT DESCRIPTION: The City of Sebring, Florida has been awarded **$248,210.00** in CDBG-MIT (Community Development Block Grant – Mitigation) funding for mitigation efforts to harden the Sebring Airport Water Production Facility. The purpose of this project is to harden this critical facility to reduce the risk of a power outage occurring and to increase the resiliency of the backup generator power supply system. The Sebring Airport project will satisfy the Urgent Need National Objective need as **40.9%** of the population within the area of benefit for this facility consist of low to moderate income residents. The mitigation activities consist of the installation of a 350kW diesel generator with a 1,161-gallon subbase diesel fuel tank and an automatic transfer switch. The project is estimated to begin July 1, 2021 and is expected to be completed within **47** months at a cost of **$248,210.00**. There are no leveraged or matching funds included in this project. The team overseeing this project consists of the City Administrator, Utilities Director, Assistant City Administrator, and selected contractor(s).

FIRE STATOIN #14 PROJECT DESCRIPTION: The City of Sebring, Florida has been awarded **$876,110.00** in CDBG-MIT (Community Development Block Grant – Mitigation) funding for mitigation efforts to harden Fire Station #14 against the risk of damage to the building structure and to increase the resiliency of the backup generator power supply system. The Fire Station #14 project will satisfy the Urgent Need National Objective as its service area is **58.3%** low to moderate income residents. The mitigation activities consist of: replacement of twelve (12) existing doors and fifty-seven (57) windows with impact resistant windows and doors, including four (4) garage bay doors, meeting American Society of Civil Engineering (ASCE) standards 7-22 ensuring a secure building envelope; Dry-proofing the Hose Tower via masonry and roofing repair along with flashing installation; Installation of Hose Tower ventilation and anchoring of existing HVAC equipment; Installation of 77kW natural gas generator with an automatic transfer switch; Reinforcing metal roof deck to withstand wind pressure loads; installation of additional roof tie-down connections. The project is estimated to begin July 1, 2021 and is expected to be completed within **47** months at a cost of **$876,110.00**. There are no leveraged or matching funds included in this project. The team overseeing this project consists of the City Administrator, City Building Official, Assistant City Administrator, Fire Chief, and selected contractor(s).

FIRE STATION #15 PROJECT DESCRIPTION: The City of Sebring, Florida has been awarded **$261,034.00** in CDBG-MIT (Community Development Block Grant – Mitigation) funding for mitigation efforts to harden Fire Station #15. The purpose of this project is to reduce the risk of damage to the building structure and to increase the resiliency of the backup generator power supply system. The population of Fire Station #15's service area is **37.6%** low to moderate income residents, therefore it is considered under the Urgent Need national objective. The mitigation activities consist of: Replacement of one (1) existing door and one (1) window with impact resistant windows and doors, including two (2) garage bay doors, meeting American Society of Civil Engineering (ASCE) standards 7-22 ensuring a secure building envelope; Installation of roof purlin stiffeners and additional wall girt bracing to adequately resist wind loads; Installation of a 42kW propane generator with an automatic transfer switch. The project is estimated to begin July 1, 2021 and is expected to be completed within **47** months at a cost of **$261,034.00**. There are no leveraged or matching funds included in this project. The team overseeing this project consists of the City Administrator, City Building Official, Assistant City Administrator, Fire Chief, and selected contractor(s).

FIREMAN'S FIELD WATER PLANT PRODUCTION FACILITY PROJECT DESCRIPTION: The City of Sebring, Florida has been awarded **$143,810.00** in CDBG-MIT (Community Development Block Grant – Mitigation) funding for mitigation efforts to harden the Fireman's Field Water Production Facility. The purpose of this project is to harden this critical facility to reduce the risk of a power outage occurring and to increase the resiliency of the backup generator power supply system. Firemen's Field project will satisfy the Urgent Need National Objective need as **40.9%** of the population within the area of benefit for this facility consist of low to moderate income residents. The mitigation activities consist of: installation of a 230kW diesel generator with a 500-gallon subbase fuel tank and an automatic transfer switch. The project is estimated to begin July 1, 2021 and is expected to be completed within **47** months at a cost of **$143,810.00**. There are no leveraged or matching funds included in this project. The team overseeing this project consists of the City Administrator, Utilities Director, Assistant City Administrator, and selected contractor(s).

PARK STREET WATER PRODUCTION FACILITY PROJECT DESCRIPTION: The City of Sebring, Florida has been awarded **$157,395.00** in CDBG-MIT (Community Development Block Grant – Mitigation) funding for mitigation efforts to harden the Park Street Water Production Facility. The purpose of this project is to harden this critical facility to reduce the risk of a power outage occurring and to increase the resiliency of the backup generator power supply system. The Park Street project will satisfy the Urgent Need National Objective need as **40.9%** of the population within the area of benefit for this facility consist of low to moderate income residents. The mitigation activities consist of installation of a 250kW diesel generator, one (1) 1,000 gallon subbase fuel tank, and automatic transfer switch. The project is estimated to begin July 1, 2021 and is expected to be completed within **47** months at a cost of **$157,395.00**. There are no leveraged or matching funds included in this project. The team overseeing this project consists of the City Administrator, Utilities Director, Assistant City Administrator, and selected contractor(s).

SEBRING POLICE STATION PROJECT DESCRIPTION: The City of Sebring, Florida has been awarded **$363,234.00** in CDBG-MIT (Community Development Block Grant – Mitigation) funding for mitigation efforts to harden the City of Sebring Police Station against storm force winds and wind-driven rains. The City of Sebring Police Station is categorized as Urgent Need as **50.9%** of the population within the area of benefit for this police station consists of low to moderate income residents. The mitigation activities consist of: replacement of thirty-nine (39) existing windows and four (4) existing doors with impact resistant windows and doors meeting American Society of Civil Engineering (ASCE) standards 7-22 ensuring a secure building envelope; Installation of additional roof tie-downs; Roofing repairs and installation of new flashing upon the roof. The project is estimated to begin July 1, 2021 and is expected to be completed within **47** months at a cost of **$363,234.00**. There are no leveraged or matching funds included in this project. The team overseeing this project consists of the City Administrator, City Building Official, Assistant City Administrator, Police Chief, and selected contractor(s).

VETERAN'S BEACH WATER PRODUCTION FACILITY PROJECT DESCRIPTION: The City of Sebring, Florida has been awarded **$159,347.00** in CDBG-MIT (Community Development Block Grant – Mitigation) funding for mitigation efforts to harden the Veteran's Beach Water Production Facility to reduce the risk of a power outage occurring and to increase the resiliency of the backup generator power supply system. The Veteran's Beach project will satisfy the Urgent Need National Objective need as **40.9%** of the population within the area of benefit for this facility consist of low to moderate income residents. The mitigation activities consist of: installation of a 250kW diesel generator with a 1,000-gallon subbase fuel tank and a ATS. The project is estimated to begin July 1, 2021 and is expected to be completed within **47** months at a cost of **$159,347.00**. There are no leveraged or matching funds included in this project. The team overseeing this project consists of the City Administrator, Utilities Director, Assistant City Administrator, and selected contractor(s).

SEBRING SANITARY SEWER REPLACEMENT PROJECT DESCRIPTION: The City of Sebring, Florida has been awarded **$3,515,280.00** in CDBG-MIT (Community Development Block Grant – Mitigation) funding for mitigation efforts to harden facilities that are part of the cities sanitary sewer collection system. The purpose of this project is to harden the City's sanitary sewer collection system to increase resiliency of the system, mitigate infiltration and inflow of stormwater into sewer lines, ensure continuity of service, increase resiliency of community and fortify community lifelines. The City of Sebring Sanitary Sewer System service area that will benefit from this grant is categorized as Urgent Need as 66.6**%** of the population within the area of benefit consists of low to moderate income residents. The mitigation activities consist of: replacement of 10,985 linear feet of 94-year-old terracotta clay sanitary sewer pipe and the replacement of 79 sanitary sewer manholes. The project is estimated to begin July 1, 2021 and is expected to be completed within **47** months at a cost of **$3,515,280.00**. There are no leveraged or matching funds included in this project. The team overseeing this project consists of the City Administrator, City Building Official, Assistant City Administrator, Police Chief, and selected contractor(s).

HIGHLANDS HOMES SERVICE AREA POTABLE WATER SUPPLY REPLACEMENT PROJECT DESCRIPTION: The City of Sebring, Florida has been awarded **$2,605,428.00** in CDBG-MIT (Community Development Block Grant – Mitigation) funding for mitigation efforts to complete fire protection resiliency, water quality, and water conservation infrastructure improvements. The purpose of this project is to replace potable water supply system in the Highlands Homes service area to mitigate fire risks, increase community resilience, increase community Insurance Services Office (ISO) ratings, provide better water quality, reduce water resource waste and fortify community lifelines. The Highlands Homes service area that will benefit from this grant is categorized as Urgent Need as 68.95% of the population within the area of benefit for these upgrades consist of low to moderate income residents. The mitigation activities consist of: replacement of 59,080 linear feet of 70-year-old cast iron waterlines and the replacement of fire hydrants, cut off valves and water services. The project is estimated to begin July 1, 2021 and is expected to be completed within **47** months at a cost of **$2,605,428.00**. There are no leveraged or matching funds included in this project. The team overseeing this project consists of the City Administrator, Utilities Director, Assistant City Administrator, and selected contractor(s).

blot engineering, inc.
Structural
Civil
Consulting

2804 S. Del Prado Blvd.
Suite 101
Cape Coral, FL 33904
(239) 257-1780 (O)
(239) 257-1806 (F)

5420 Martindale Rd.
Shawnee, KS 66218
(913) 441-1636 (O)
(913) 745-5700 (F)

www.blotengineering.com

June 11, 2020

City of Sebring
Attn: Bob Hoffman
368 Commerce Ave.
Sebring, FL 33870

RE: Fire Station #15 Facility Hardening Assessment Report
1037 US 27 S, Sebring, FL 33870
CDBG-MIT Grant Engineering

Mr. Hoffman:

Blot Engineering Inc. (BEI) appreciates the opportunity to provide this Facility Hardening Assessment report to the City of Sebring (CITY) for the above project. BEI's scope of work included performing a visual inspection of the building roof, walls, doors, windows, and backup generator power supply system; and to provide an assessment as to the condition of each system component. Load capacity calculations, load ratings, and/or detailed engineering and specifications for any needed repairs are outside the current scope BEI's services.

An on-site inspection was performed on 6/02/20 and 6/03/20.

This report will outline the findings of our Facility Hardening Assessment services along with any associated recommendations for corrective measures. The comments listed below from the investigation were derived from combinations of field observations and standard industry practices.

PROJECT DESCRIPTION

Fire Station #15 (FS15) is considered an essential facility and is intended to remain occupied by first responders during hurricane and tropical storm events. This fire station was constructed in 1977, and serves the citizens of Sebring predominately West and South of Lake Jackson. The CITY would like to have an independent evaluation of the building roof, walls, doors, windows, and backup generator power supply system; and to identify any areas where the facility could be hardened in order to mitigate emergency-related challenges and allow this critical facility to remain fully functional in the event of a hurricane, tropical storm, or power outage.

ARCHITECTURAL BUILDING DOOR/WINDOW ASSESSMENT

Please reference the attached assessment from Capstone Project Services for details and condition of the existing building doors and window system.

GENERATOR ASSESSMENT

Please reference the attached assessment from Spelman Engineering for details and condition of the existing generator system.

ROOF/WALL STRUCTURAL ASSESSMENT

The building construction is a pre-engineered metal building system with metal roof and wall panels (see Photos 1, 2 and 3).

Wall System. The wall system for FS#15 is comprised of 1 ¾" deep corrugated metal wall panels supported by 9" deep metal Z-girts spaced between 2'-6" to 8'on center. The interior flanges of the wall girts along the East face of the building appear to be braced with wall sheathing in the apparatus bay (see Photo 4). The interior flanges of the wall girts along the West face of the building appear to be unbraced due to the finished interior spaces constructed independently of the metal building (assumed). The metal wall panel was analyzed, and found to be structurally adequate for current Florida Building Code wind pressure loads. After analysis of the wall girts, it was determined that the interior flange of the West wall girts need additional bracing to adequately resist design wind loads.

Roof System. The roof system for FS#15 is comprised of 1 ¾" corrugated metal panels supported by 8" metal Z-purlins spaced at 5 ft. on center. A liner panel is attached to the bottom of the roof purlins across the apparatus bay (see Photo 4). There is no liner panel along the roof above the storage area (located West of the apparatus bay). The metal roof panel was analyzed, and found to be structurally adequate for current Florida Building Code wind pressure loads. After analysis of the roof purlins, it was determined that additional stiffeners are required to strengthen the existing roof purlins across the apparatus bay to resist design wind loads. The existing roof purlins West of the apparatus bay will also require stiffeners along with some additional bracing to resist design wind loads.

HARDENING RECOMMENDATIONS

The following Architectural and Engineering building and generator components have been identified as risks to the resiliency of the facility along with recommended mitigation of these risks as outlined below:

1. Doors and Windows. The current Florida Building Code requires Risk Category IV essential facilities to be provided with Large Missile E tested doors and windows. The

doors and windows at FS15 do not meet this criterion, and are at risk for fenestration failure during a hurricane or tropical storm event. This risk is proposed to be mitigated by replacing all doors and windows with Large Missile E tested doors and windows (including the apparatus bay doors).

2. Generator Modifications. The facility generator is a 2017 residential 22kW generator that cannot support the building SCUBA compressor equipment needed for rescue and recovery. The 200A main breaker electrical panel has been compromised and modified by the generator installation. The electrical termination shows green corrosion, and the terminal hardware is rusted. This risk is proposed to be mitigated by replacing the existing generator with a proposed commercial generator Kohler Model KG40 (42kW) with 4Q7XB alternator in a Hurricane rated, Weather and Sound Attenuating Aluminum enclosure, replacing the transfer switch with a service rated automatic transfer switch, and replacing the main electrical panel to regain the integrity of the electrical system.

3. Structural Modifications. The facility is a pre-engineered metal building with predominately metal wall panel and roof panel construction. The following wall and roof structure components have been assessed with recommendations for mitigation:
    a. Wall Girt Bracing. The interior flanges of the wall girts along the West face of the building appear to be unbraced, and after structural analysis, the wall girt interior flanges need additional bracing to adequately resist design wind loads. Due to the finished interior spaces along the west end of the building, sections of the exterior metal wall panel will need to be removed/replaced to install the needed wall girt braces.
    b. Roof Purlin Stiffeners. After inspection and structural analysis, the strength of the existing roof purlins was found to be inadequate to resist design wind loads, and need to be stiffened. Installation of roof purlin stiffeners from below will require removal (and subsequent reinstallation) of the existing ceiling liner panel to provide access for work. In addition to purlin stiffeners, the purlins West of the apparatus bay will also require braces to be installed to adequately resist design wind loads.
    c. The above wall girt and roof purlins are subject to overstressing failure during design hurricane wind speeds; and if they were to fail, the fire station building, assets, and operations could be compromised.

CONCLUSIONS

In order to increase the resilience of this critical facility, door/window replacement, generator system replacement, wall girt bracing, and roof joist stiffening upgrades are recommended to harden the facility against the hazards of hurricane and tropical storm wind damage, and to increase the resiliency of the backup generator power supply system. Blot Engineering recommends that any building or generator modifications to the facility be designed and engineered by Licensed Florida Professional Engineers and Architects.

Blot Engineering Inc. has exercised reasonable skill, care, and diligence in the performance of its services and has carried out its responsibilities in accordance with customarily accepted professional engineering practices in Engineer's community. No warranty, expressed or implied, is included with these Assessment services or in any opinion produced by this report.

This report concludes our Facility Hardening Assessment services for the above site location. Should you have questions regarding the above, please feel free to contact me at 239-257-1780.

Sincerely,

Edward M. Blot, P.E.
Blot Engineering, Inc.

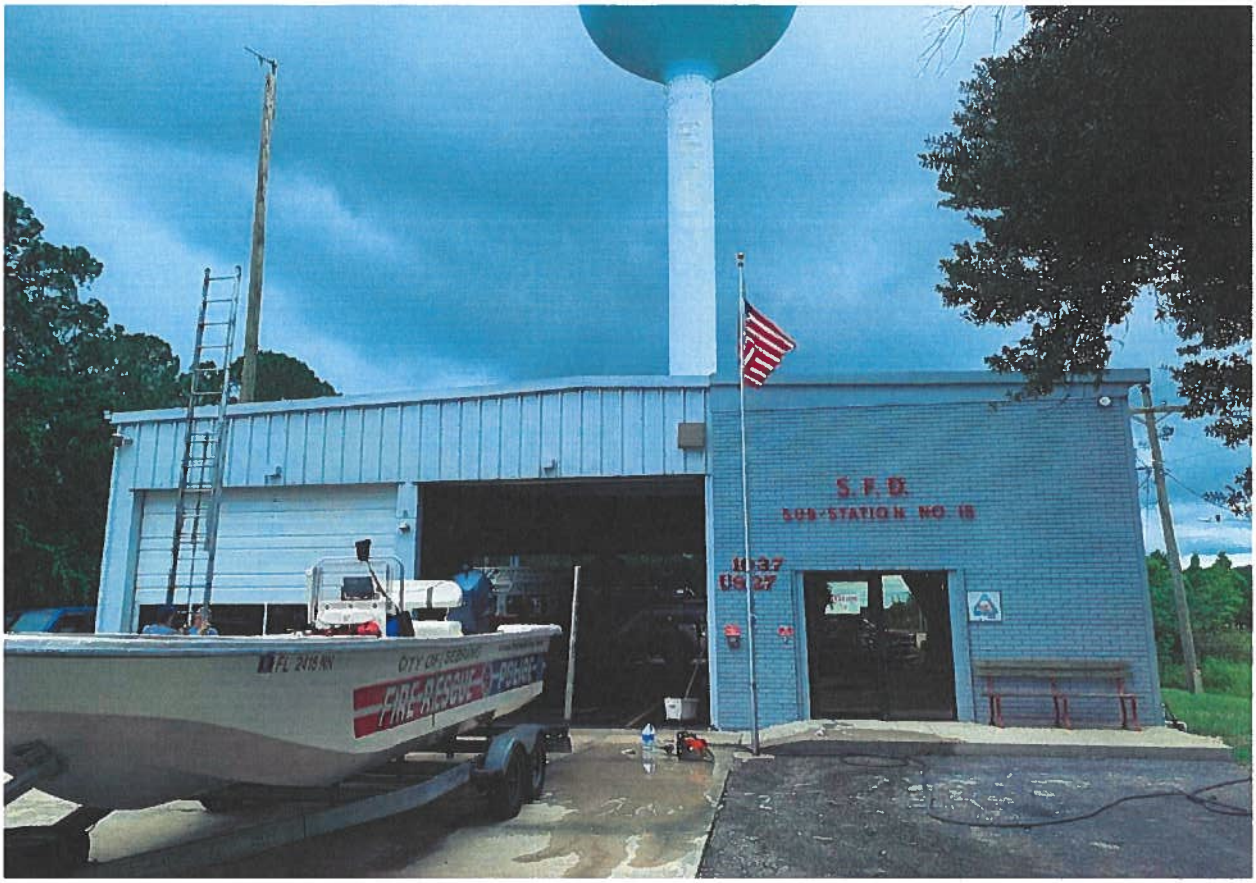


Photo 1: FS#15 North Elevation

Photo 2: FS#15 East Elevation

Photo 3: FS#15 West Elevation

Photo 4: Apparatus Bay Interior

CAPSTONE
project services, plc

Architecture | Project Management | Consulting | As-Built Surveys

June 8, 2020

To: Ed Blot - Blot Engineering, Inc
2804 S. Del Prado Blvd., Suite 101
Cape Coral, FL 33904

Re: City of Sebring – Hardening and Mitigation Report - **Fire Station #15**

This building, being a Fire Station, is considered an essential facility and is intended to remain occupied by first responders during hurricane and tropical storm events. This facility would therefore be considered a risk category IV building and would be a candidate for a facility hardening project. The hardening efforts would be subject to the wind speed map shown on table 1609.3(2) in the 2017 Florida Building Code - Building, Sixth Edition.

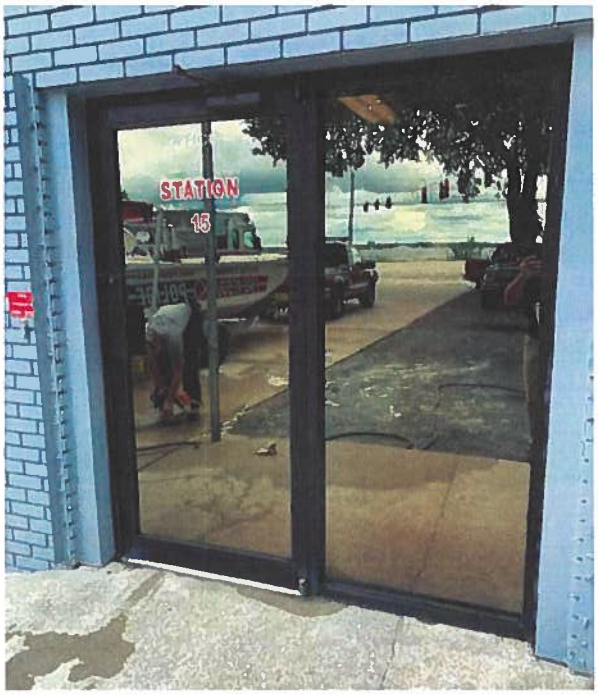
The design wind speed shown on table 1609.3(2) for this building would be 147 MPH. This design wind speed would place this building in a WIND-BORNE DEBRIS REGION as defined in chapter 2 of the 2017 Florida Building Code - Building, Sixth Edition: *...areas where the ultimate design wind speed is 140 mph (63.6 m/s) or greater.*

Per section 1626.2.4 of the 2017 Florida Building Code - Building, Sixth Edition: *The large missile shall impact the surface of each test specimen at a speed of ... 80 feet per second (24.38 m/s) for Risk Category IV–Essential Facility buildings or structures.* This is consistent with current Large Missile E testing requirements for doors and windows. Therefore the doors and windows should be brought up to Large Missile E testing requirements.

The building design criteria shown on the documents for the most recent renovation, states the code used to design the structural loading was the 2007 Florida Building Code. The large missile impact testing criteria for doors and windows as stated in FBC 2007 section 1626.2.4 is: *The large missile shall impact the surface of each test specimen at a speed of 50 feet per second.* This is consistent with current Large Missile D testing requirements, and the fenestration currently installed at this facility appears to have been designed and tested to the Missile D testing standards.

Therefore, the doors and windows of this facility should be replaced to meet the current requirements of the Florida Building Code (Large Missile E testing requirements) to maintain critical Fire and Rescue services for the community. Not having these services available, due to fenestration failure at this facility would negatively impact the safety of the Citizens of the City of Sebring.

View of the front elevation of Fire Station #15

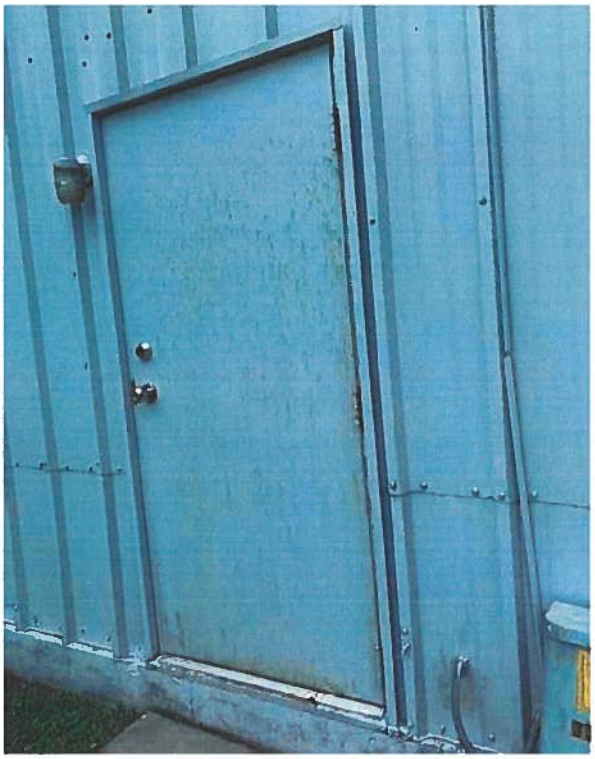


View of non-impact rated entry door and storefront window

capstoneps.net

Roanoke
2125 Jefferson Street SW
Post Office Box 8279
Roanoke, VA 24014
540.595.7333
Larry Nichols, CSD
540.598.0702

Ft. Myers
2211 Widman Way, Suite 220
Ft. Myers, FL 33901
Mark Hughes, AIA
941.441.5740
Obadiah Swafford, AIA
407.749.9033



View of existing steel man door

Sincerely,

Obadiah Swafford, AIA
Principal-Architect
Capstone Project Services, PLC
AA26002199

capstoneps.net

Roanoke
2125 Jefferson Street SW
Post Office Box 8279
Roanoke, VA 24014
540.595.7333
Larry Nichols, CSD
540.598.0702

Ft. Myers
2211 Widman Way, Suite 220
Ft. Myers, FL 33901
Mark Hughes, AIA
941.441.5740
Obadiah Swafford, AIA
407.749.9033

Spelman Engineering, Inc.
6296 Corporation Court, Building A Suite 201, Fort Myers, FL 3391
Mailing Address: PO Box 3519, North Fort Myers, FL 33918
239-770-2930 cspelman@spelmanengineering.com
Certificate of Auth.: 26955 ~ Florida License: 34925
www.spelmanengineering.com

Fire Station 15, 1037 US 27 S, Sebring, Fl 33870, located in Highlands County. This is a 'critical facility' providing fire protection, rescue, and hazard mitigation services to the residents of the City of Sebring. The FEMA flood map 12055C119C located in Zone X, immediately across US 27 from Lake Jackson.

The generator is at same elevation as the building concrete first level, see photo 1, 2, 4. This generator is a residential 22kW generator that cannot support the building SCUBA compressor equipment needed for rescue and recovery, see photo 5.

The generator was manufactured in 2017, and not commissioned as the run clock reads 27,019 hrs. Photo 3.

The 200A, main breaker electrical panel has been compromised by the generator installation, modifying the panel 'A', Photo 6, 7, 9. The electrical termination shows green corrosion, and the terminal hardware is rusted, See photo 8.

The funding will be used to replace the existing generator with a proposed commercial generator Kohler Model KG40 (42kW) with 4Q7XB alternator in a Hurricane rated, Weather and Sound Attenuating Aluminum enclosure, replace transfer switch with service rated automatic transfer switch, replace electrical panel to regain the integrity of the electrical system.

Photo 1

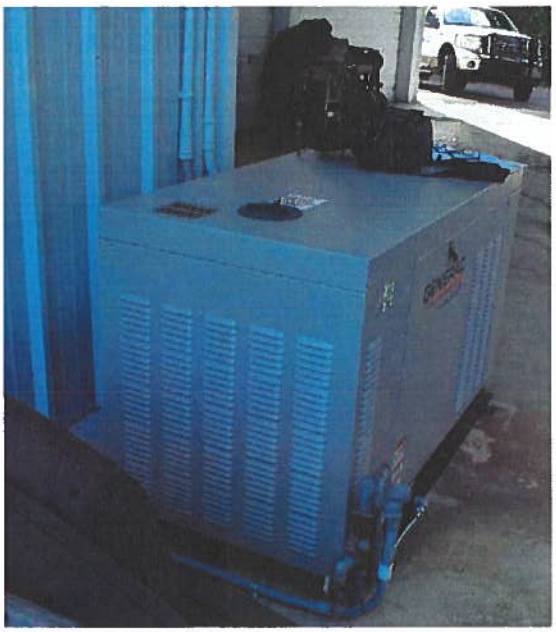


Photo 2

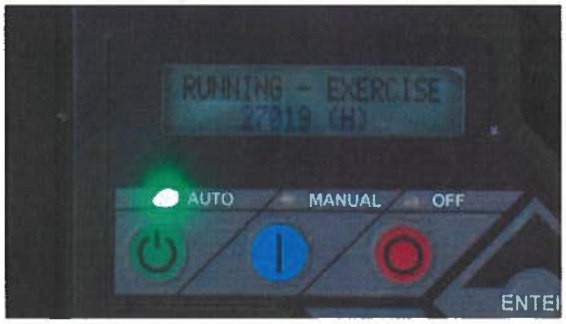


Photo 3

Photo 4

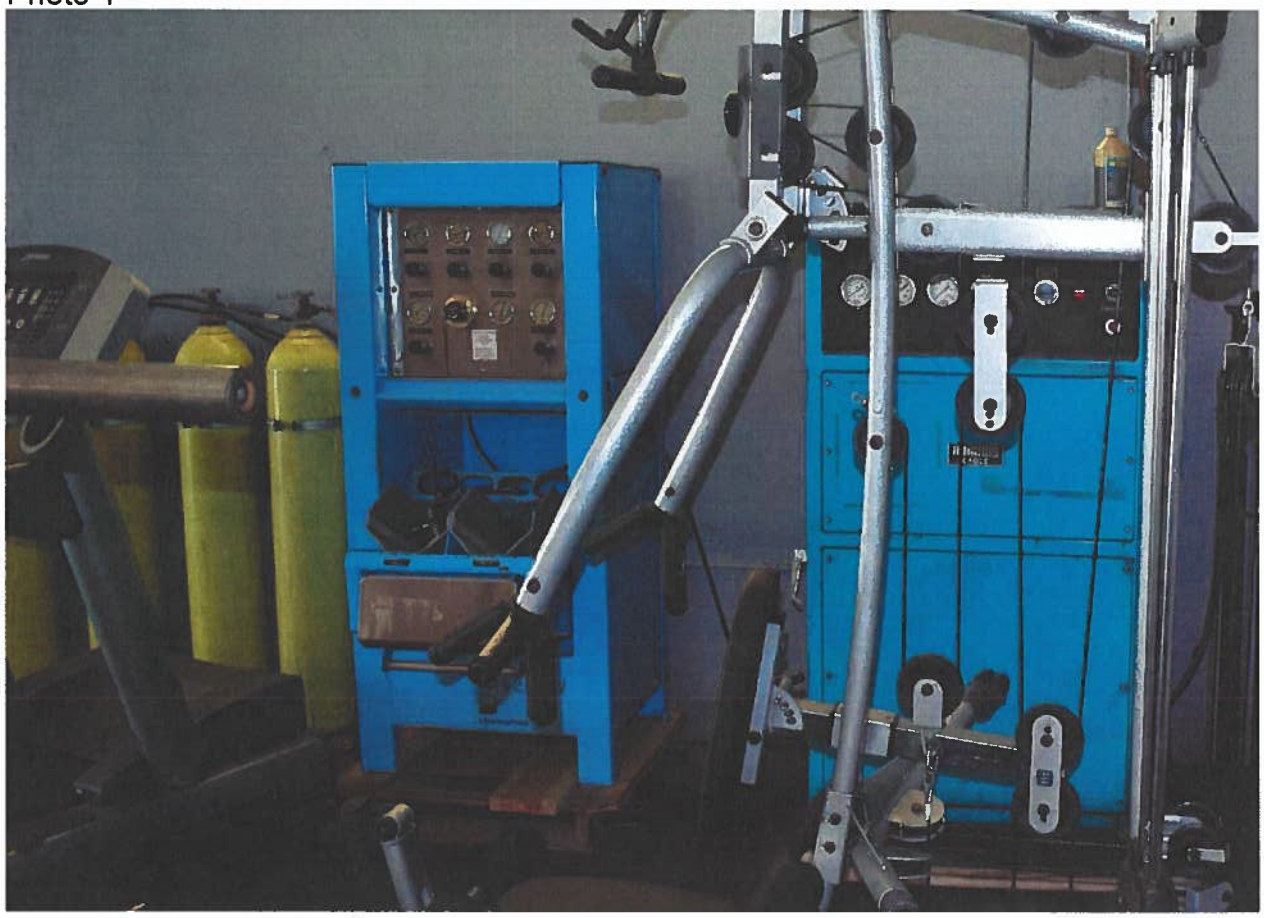


Photo 5 Scuba Air Compressor Equipment

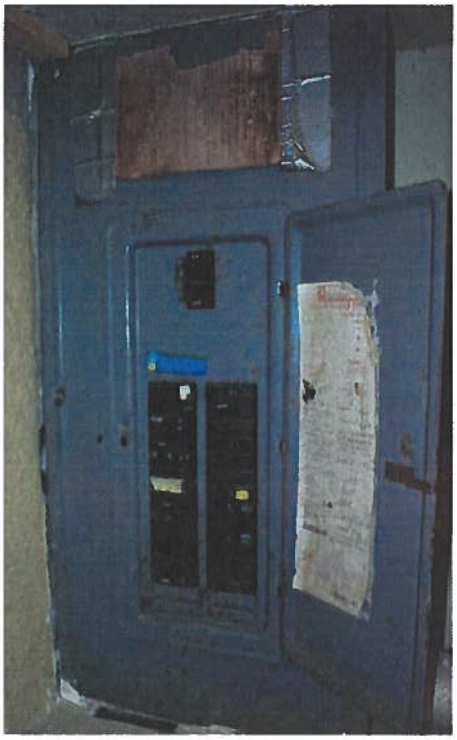


Photo 6

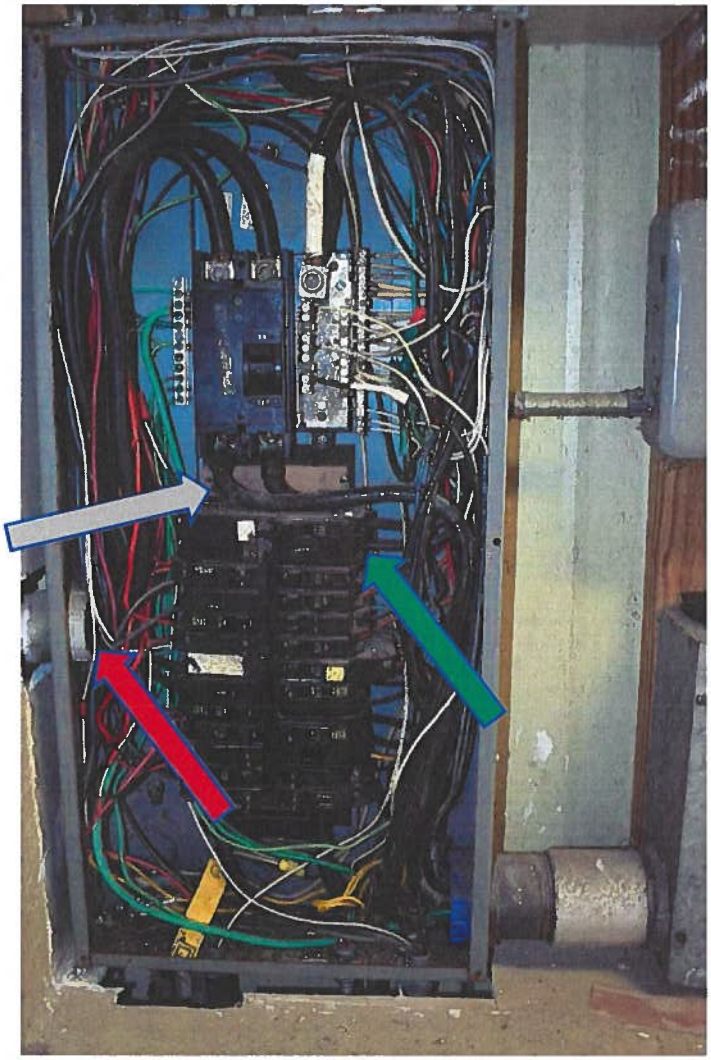


Photo 7

Service entrance from meter (red), panel bus modified (gray), generator power (green) back-fed breaker

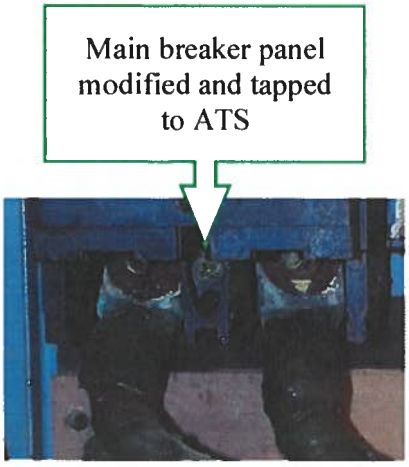


Photo 8

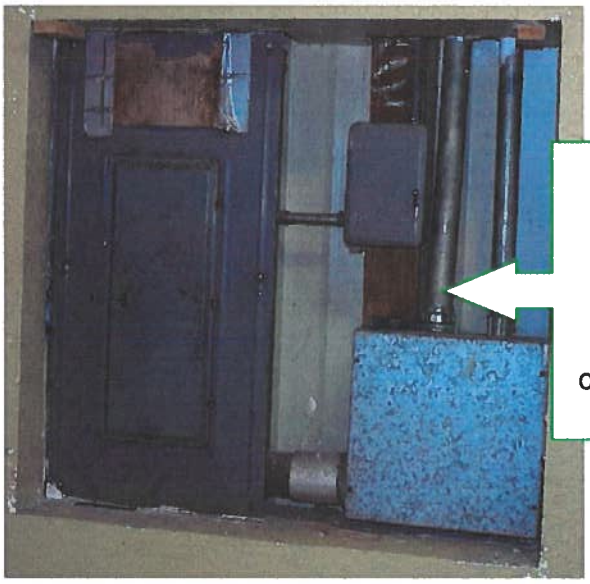


Photo 9

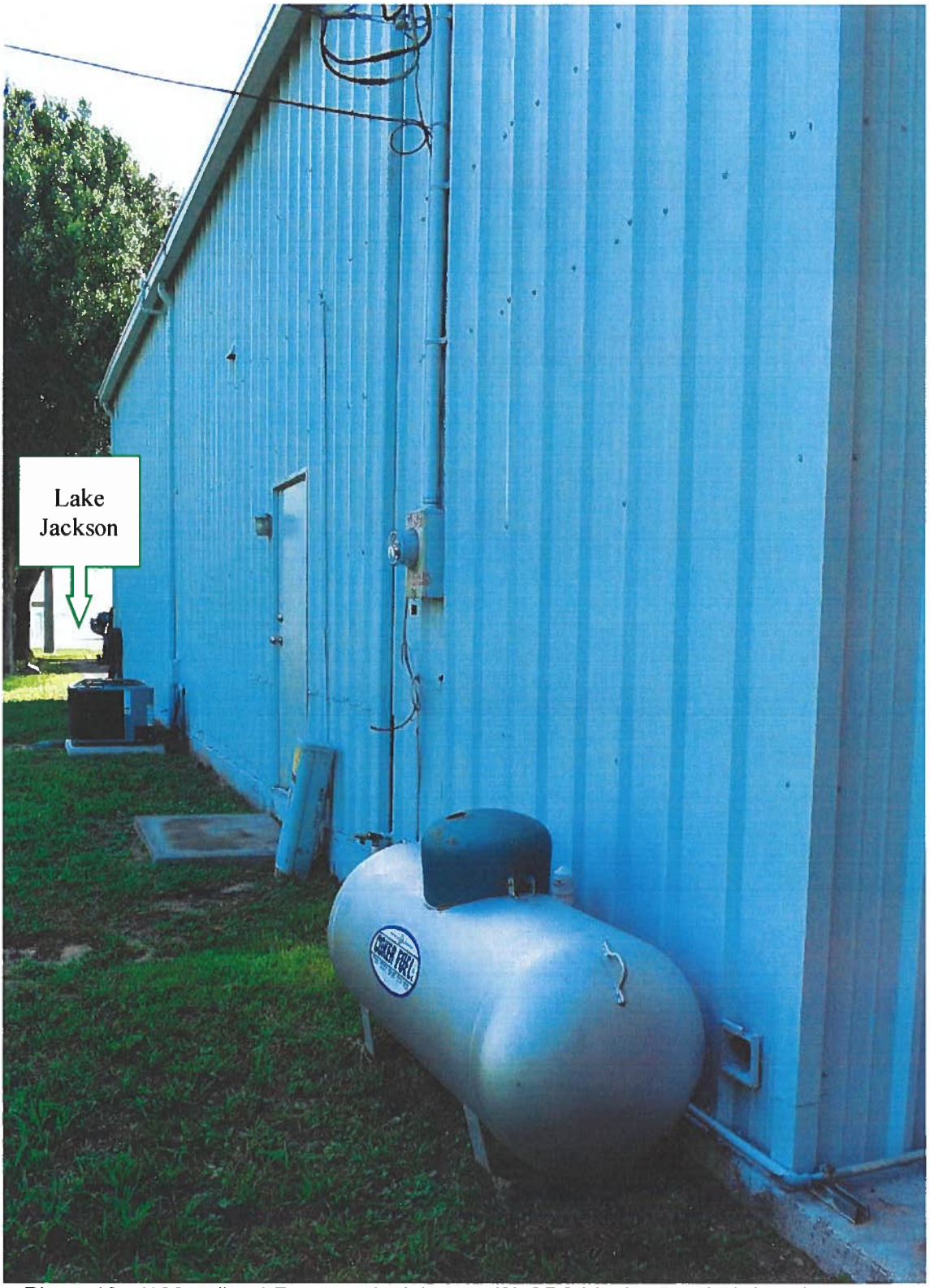


Photo 10 (100 gallon LP gas tank sitting on (2) CBS blocks, not tied down)
Replace with 500-gallon tank affixed to concrete slab

blot engineering, inc.
Structural
Civil
Consulting

2804 S. Del Prado Blvd.
Suite 101
Cape Coral, FL 33904
(239) 257-1780 (O)
(239) 257-1806 (F)

5420 Martindale Rd.
Shawnee, KS 66218
(913) 441-1636 (O)
(913) 745-5700 (F)

www.blotengineering.com

June 11, 2020

City of Sebring
Attn: Bob Hoffman
368 Commerce Ave.
Sebring, FL 33870

RE: Fire Station #14 Facility Hardening Assessment Report
301 N Mango St, Sebring, FL 33870
CDBG-MIT Grant Engineering

Mr. Hoffman:

Blot Engineering Inc. (BEI) appreciates the opportunity to provide this Facility Hardening Assessment report to the City of Sebring (CITY) for the above project. BEI's scope of work included performing a visual inspection of the building roof, hose tower, doors, windows, and backup generator power supply system; and to provide an assessment as to the condition of each system component. Load capacity calculations, load ratings, and/or detailed engineering and specifications for any needed repairs are outside the current scope BEI's services.

An on-site inspection was performed on 6/02/20 and 6/03/20.

This report will outline the findings of our Facility Hardening Assessment services along with any associated recommendations for corrective measures. The comments listed below from the investigation were derived from combinations of field observations and standard industry practices.

PROJECT DESCRIPTION

Fire Station #14 (FS14) is considered an essential facility and is intended to remain occupied by first responders during hurricane and tropical storm events. This downtown Sebring fire station was built in 1927; and the station was placed on the National Register of Historic Places on August 14, 1989. This fire station serves the citizens of Sebring predominately East and North of Lake Jackson. During Hurricane IRMA, the firemen of FS14 noted water intrusion around the windows of the building, and around the doors of the hose tower structure (bottom and top). The CITY would like to have an independent evaluation of the building roof, hose tower, walls, doors, windows, and backup generator power supply system; and to identify any areas where the

facility could be hardened in order to mitigate emergency-related challenges and allow this critical facility to remain fully functional in the event of a hurricane, tropical storm, or power outage.

ARCHITECTURAL BUILDING DOOR/WINDOW AND HOSE TOWER DRY-PROOFING ASSESSMENT

Please reference the attached assessment from Capstone Project Services for details and condition of the existing building doors and window system.

GENERATOR ASSESSMENT

Please reference the attached assessment from Spelman Engineering for details and condition of the existing generator system.

FLAT ROOF AND HOSE TOWER STRUCTURAL ASSESSMENT

The general construction of the FS#14 building is comprised of a perimeter load-bearing brick wall and an interior steel framed structure which supports the 2nd story flat roof. There is a hose tower extending above the flat roof constructed of load-bearing brick walls. In 2005, structural steel was installed in the hose tower to provide supplemental bracing for the tower after it experienced damage from the 2004 hurricanes (see Photos 1, 2, and 3 for general photos of FS#14).

Flat Roof: The flat roof system is comprised of an insulated roof membrane supported by metal roof deck over steel joists supported by steel girder beams.

1. Metal Roof Deck. The metal roof deck is constructed of 6" wide heavy gage flat panels with ¾" deep turndowns along both sides forming a stiffened rib which bears on the steel joists (see Photo 4). This metal deck profile was analyzed for current Florida Building Code wind pressure loads, and was found to be inadequate to resist the required wind pressure loads along the perimeter 6 ft. zone of the roof. The existing metal roof deck will need to be reinforced along this perimeter zone.
2. Metal Roof Deck Tie-Down Clips. The roof deck bearing rib has a gage metal bent tab that acts as a hold down clip to anchor the roof deck to the steel joists (see Photo 5). A structural analysis of this tie-down connection found them to be inadequate to resist the design wind pressure loads.
3. Steel Joists and Connection Clips. The existing steel roof joists are a fabricated "I-joist" constructed of a 3/8" web plate and back-to-back 1" angles forming the top and bottom flanges of the joist (see Photo 6). The roof joists were analyzed and found to be structurally adequate for the required roof loads. The bottom flange of the joist is attached to the top girder beam flange with gage metal "clip" (see Photo 7). This connection is not adequate to resist the design wind pressure loads.

Hose Tower: As discussed above, the hose tower had supplemental steel installed in 2005 forming a steel support frame inside the hose tower to structurally reinforce the tower (see Photos 8 and 9). Blot Engineering analyzed the supplemental steel, and found it to be adequate to support current Florida Building Code wind pressures on the hose tower.

HARDENING RECOMMENDATIONS

The following Architectural and Engineering building and generator components have been identified as risks to the resiliency of the facility along with recommended mitigation of these risks as outlined below:

1. Doors and Windows. The current Florida Building Code requires Risk Category IV essential facilities to be provided with Large Missile E tested doors and windows. The doors and windows at FS14 do not meet this criterion, and are at risk for fenestration failure during a hurricane or tropical storm event. This risk is proposed to be mitigated by replacing all doors and windows with Large Missile E tested doors and windows (including the apparatus bay doors).

2. Dry Proofing. The fire station hose tower is not sealed water-tight, and is allowing water intrusion inside the hose tower (and walls) which in turn has resulted in pockets of water forming under the roofing membrane throughout areas of the flat roof. If the hose tower is not properly sealed, the resulting water intrusion will not only compromise the roof membrane, but could eventually leak into the living quarters and operations center for the fire station. This risk is proposed to be mitigated through dry-proofing repairs to the hose tower including door replacement, brick tuck pointing and sill repair, and roofing & flashing repairs at both the tower roof and building flat roof. Additional ventilation of the hose tower above the flat roof elevation is also recommended.

3. Non-Anchored Roof HVAC Equipment. Adjacent to the hose tower, there is an HVAC equipment on the flat roof that is not anchored. This equipment is subject to damage (or causing roof damage) during high wind events. This risk is proposed to be mitigated by anchoring the HVAC equipment to the flat roof structure.

4. Generator Modifications. The following generator components have been assessed with recommendations for mitigation:
    a. The steel enclosure housing is showing signs of rust deterioration, to the mounting frame, roof and doors. The existing generator is an Onan 75ENAD, 75kW, 208Y/120V, 3Ø generator; and has 1,131 running hours and was manufactured (per the serial number C940536941) in March 1994 (25 to 30 years is the life expectancy for natural gas generators with best conditions and maintenance). Considering the overall age and condition, this generator has reached the end of its service life. With limited parts availability, the resiliency of

this backup power supply is in question should extensive maintenance or repairs be needed. It is proposed to mitigate this risk by replacing the existing generator with a proposed Kohler equivalent Model KG80 (77kW) with 4P10X alternator in a Hurricane rated, Weather and Sound Attenuating Aluminum enclosure.

b. The automatic transfer switch (ATS) ASCO, Model E is obsolete (Model E00300030400C1XC). The Series 300 has become a Manual Transfer Switch series. To mitigate this risk and maintain reliability of the system, it is proposed to replace the existing ATS with a proposed Kohler KCS-ACTA-0400-S, 400A, 3-pole, 4-wire, indoor non-service, rated automatic transfer switch.

5. Roof Structural Modifications. The following roof support structure components have been assessed with recommendations for mitigation:
   a. Flat Roof Metal Roof Deck. The metal roof deck was field measured and analyzed for current Florida Building Code wind pressure loads. The existing metal roof deck needs to be reinforced along the perimeter 6 ft. zone of the flat roof to resist design wind pressures.
   b. Metal Roof Deck Hurricane Tie-Down Connections. A structural assessment and analysis of the existing metal roof deck found that the existing roof deck tie-down connections are not adequate to resist the design wind pressure loads; and new hurricane tie-down connections need to be installed throughout the roof to structurally anchor the roof deck to the steel roof joists (both around the perimeter, and in the field).
   c. Steel Roof Joist Hurricane Tie-Down Connections. The existing roof joist tie-down "clips" were inspected and found to be inadequate to resist current wind pressure loads. New hurricane tie-down connections need to be installed at each roof joist-to-girder beam location throughout the roof.
   d. The above flat roof components are subject to uplift failure during design hurricane wind speeds; and if they were to fail, the fire station building, assets, and operations could be compromised.

CONCLUSIONS

In order to increase the resilience of this critical facility, door/window replacement, generator system replacement, flat roof deck stiffening, and roof deck/joist tie-down connection upgrades are recommended to harden the facility against the hazards of hurricane and tropical storm wind damage and to increase the resiliency of the backup generator power supply system. Blot Engineering recommends that any building or generator modifications to the facility be designed and engineered by Licensed Florida Professional Engineers and Architects.

Blot Engineering Inc. has exercised reasonable skill, care, and diligence in the performance of its services and has carried out its responsibilities in accordance with customarily accepted professional engineering practices in Engineer's community. No warranty, expressed or implied, is included with these Assessment services or in any opinion produced by this report.

This report concludes our Facility Hardening Assessment services for the above site location. Should you have questions regarding the above, please feel free to contact me at 239-257-1780.

Sincerely,

Digitally signed by
Edward M Blot
Date: 2020.06.11
17:35:35 -04'00'

Edward M. Blot, P.E.
Blot Engineering, Inc.

Photo 1: Fire Station #14 Elevation

Photo 2: Fire Station #14 Elevation

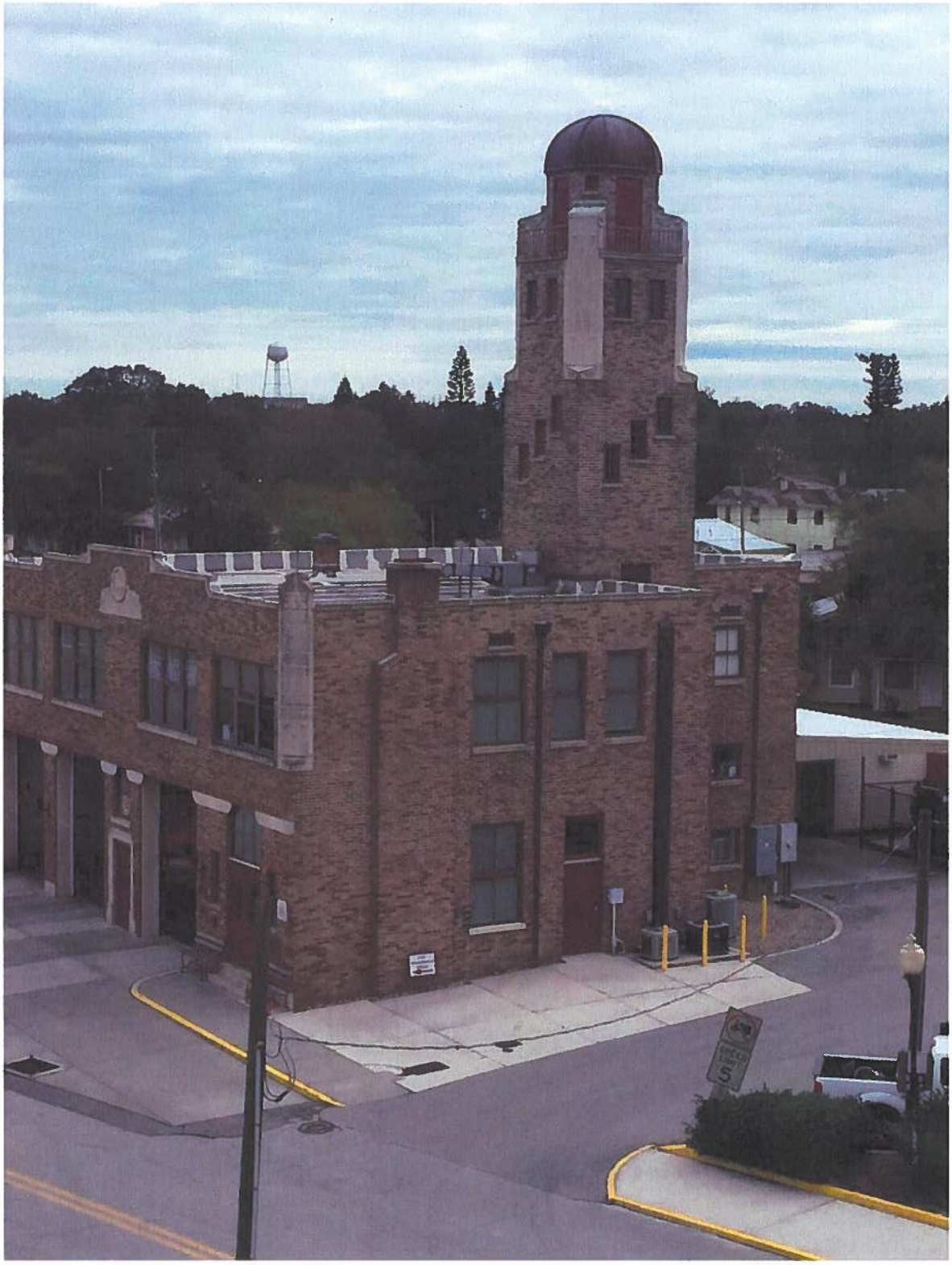


Photo 3: Fire Station #14 Elevation

Photo 4: Metal Roof Deck

Photo 5: Existing Metal Roof Deck Hold-Down Bent Tab

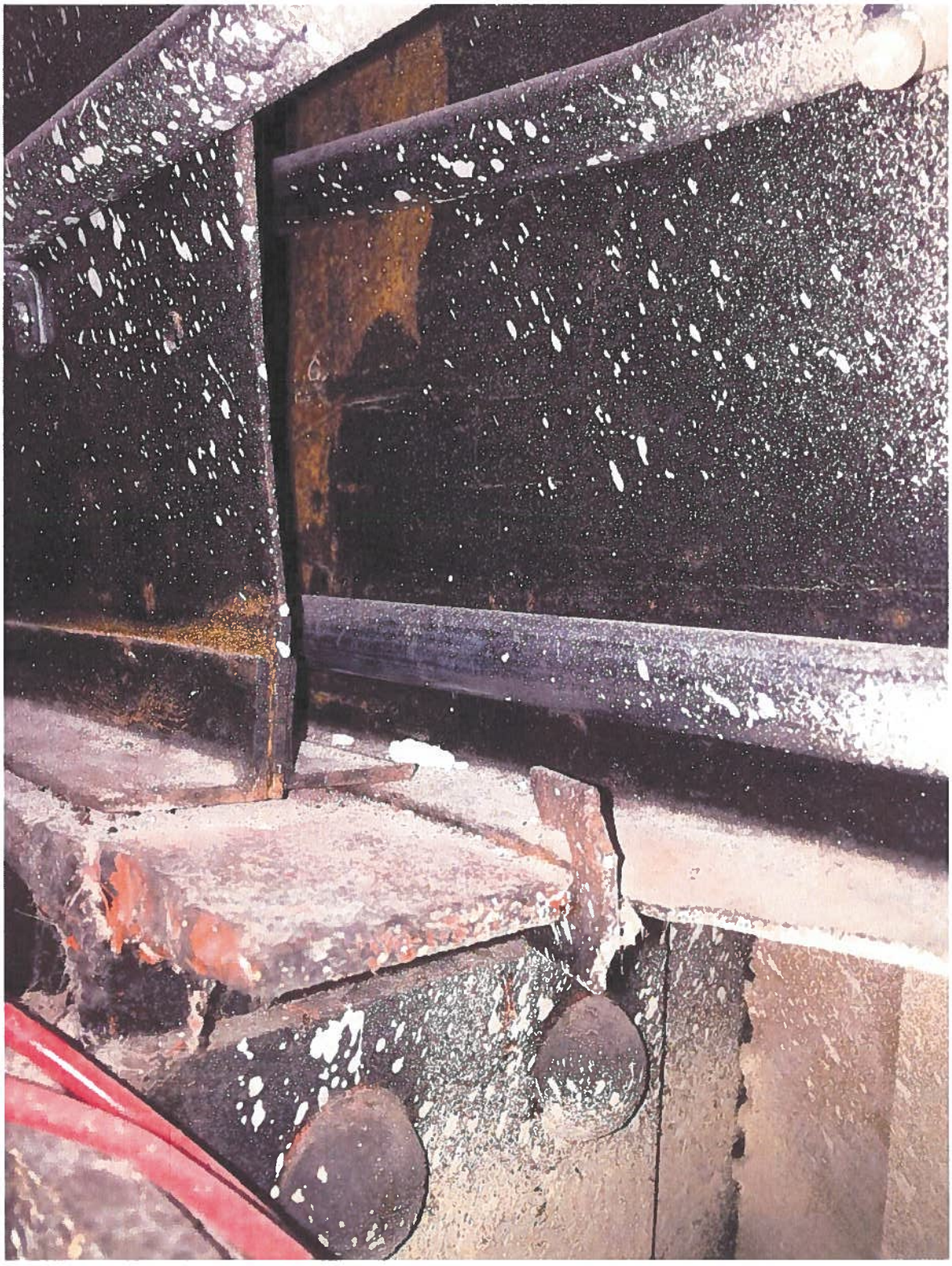


Photo 6: Steel Roof Joist

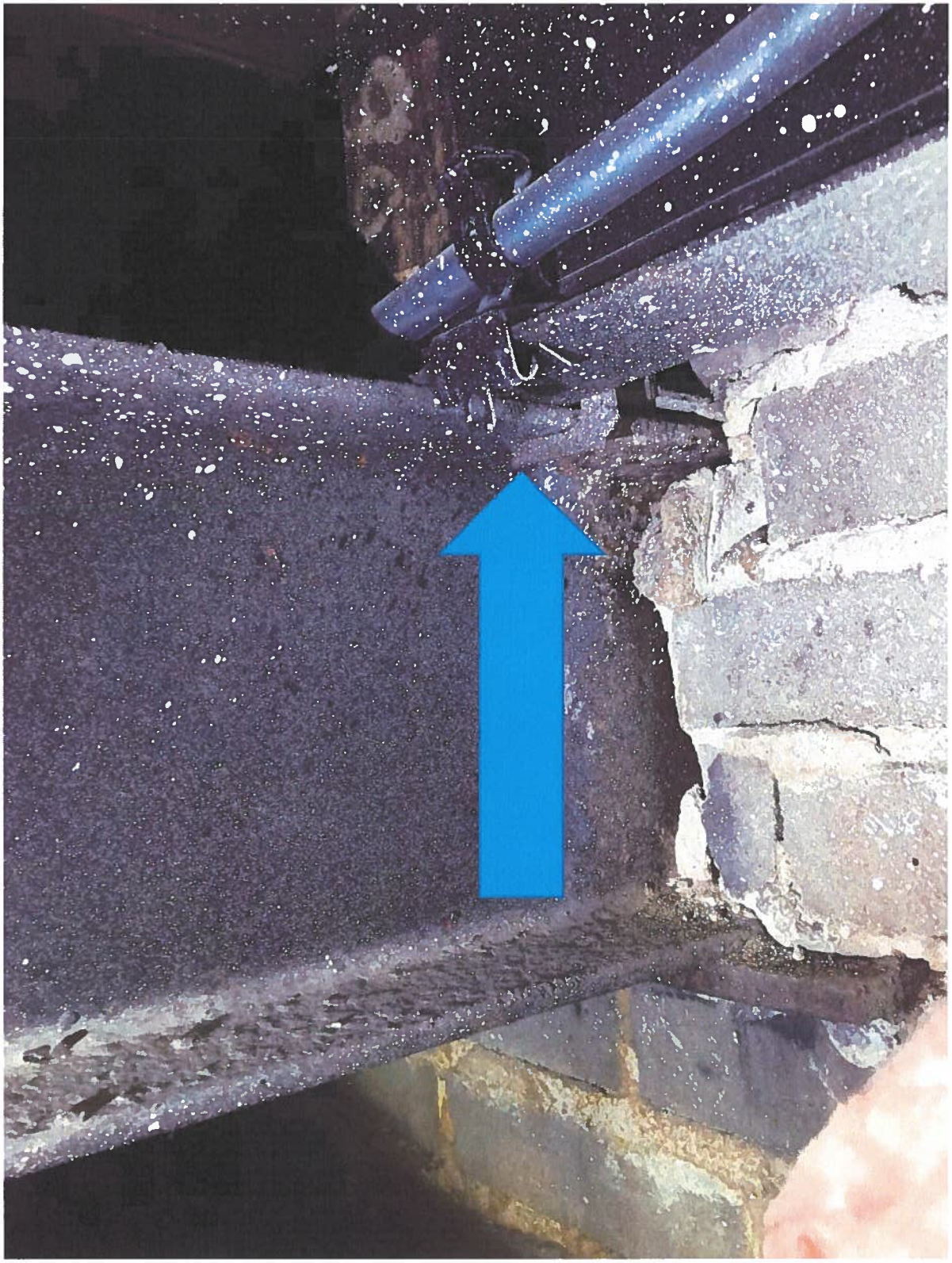


Photo 7: Steel Roof Joist Hold-Down "Clip"

Photo 8: Hose Tower Supplemental Steel

Photo 9: Hose Tower Supplemental Steel

CAPSTONE
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Architecture | Project Management | Consulting | As-Built Surveys

June 8, 2020

To: Ed Blot - Blot Engineering, Inc
2804 S. Del Prado Blvd., Suite 101
Cape Coral, FL 33904

Re: City of Sebring – Hardening and Mitigation Report - **Fire Station #14**

This building, being a Fire Station, is considered an essential facility and is intended to remain occupied by first responders during hurricane and tropical storm events. This facility would therefore be considered a risk category IV building and would be a candidate for facility hardening and water intrusion mitigation projects. The hardening efforts would be subject to the wind speed map shown on table 1609.3(2) in the 2017 Florida Building Code - Building, Sixth Edition.

The design wind speed shown on table 1609.3(2) for this building would be 147 MPH. This design wind speed would place this building in a WIND-BORNE DEBRIS REGION as defined in chapter 2 of the 2017 Florida Building Code - Building, Sixth Edition: *...areas where the ultimate design wind speed is 140 mph (63.6 m/s) or greater.*

Per section 1626.2.4 of the 2017 Florida Building Code - Building, Sixth Edition: *The large missile shall impact the surface of each test specimen at a speed of ... 80 feet per second (24.38 m/s) for Risk Category IV–Essential Facility buildings or structures.* This is consistent with current Large Missile E testing requirements for doors and windows. Therefore the doors and windows should be brought up to Large Missile E testing requirements.

The building design criteria shown on the documents for the most recent renovation, states the code used to design the structural loading was the Florida Building Code (FBC) 2001. The large missile impact testing criteria for doors and windows as stated in FBC 2001 section 1626.2.4 is: *The large missile shall impact the surface of each test specimen at a speed of 50 feet per second*. This is consistent with current Large Missile D testing requirements, and the fenestration currently installed at this facility appears to have been designed and tested to the Missile D testing standards.

capstoneps.net

Roanoke
2125 Jefferson Street SW
Post Office Box 8279
Roanoke, VA 24014
540.595.7333
Larry Nichols, CSD
540.598.0702

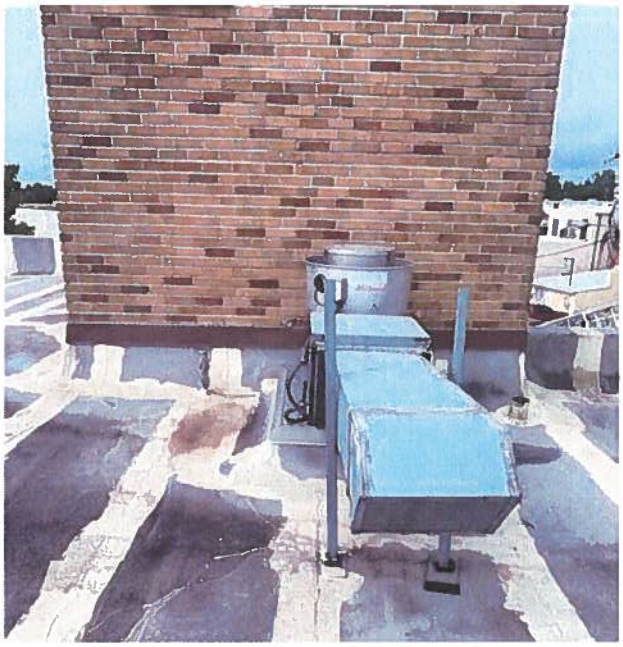
Ft. Myers
2211 Widman Way, Suite 220
Ft. Myers, FL 33901
Mark Hughes, AIA
941.441.5740
Obadiah Swafford, AIA
407.749.9033

Therefore, the doors and windows of this facility should be replaced to meet the current requirements of the Florida Building Code (Large Missile E testing requirements) to maintain critical Fire and Rescue services for the community. Not having these services available, due to fenestration failure at this facility would negatively impact the safety of the Citizens of the City of Sebring.

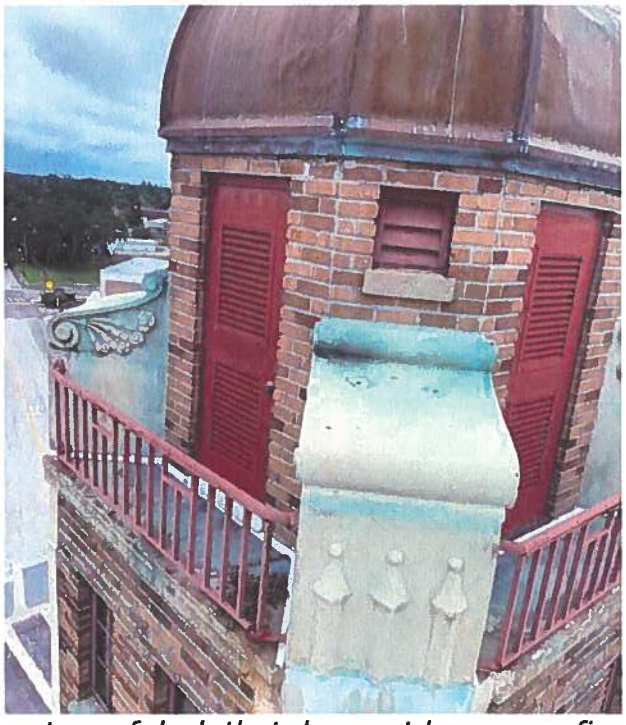
It was noted during field observations that there was significant water intrusion into the building at the historic fire hose drying tower. The water intrusion has and will continue to damage finished and occupied spaces, that were built into this historic tower, potentially rendering those portions of the facility inoperable. Field investigations revealed the likely water intrusion points are: a concrete roof deck that does not have a roofing membrane, loose brick mortar that needs to be tuck pointed, a wood wall section that was used to infill a previous exterior door location, and degraded vent and window limestone sills that need to be replaced. Furthermore, previous work to stop water intrusion into this tower has reduced the ventilation that was original to the tower. The humid and moist conditions this has created, could be greatly enhanced by mechanically ventilating this tower.

This water intrusion has also compromised the existing roofing membrane. Pockets of water were observed between the roof membrane and insulation. The compromised roofing membrane should be removed and a new roof system including areas of tapered insulation to help direct the drainage of water should be installed, to mitigate the risk of roof failure that will lead to water damage.

View of the front elevation of the Fire Station #14



View of non-anchored free standing HVAC equipment, and existing flat roof



View of concrete roof deck that does not have a roofing membrane

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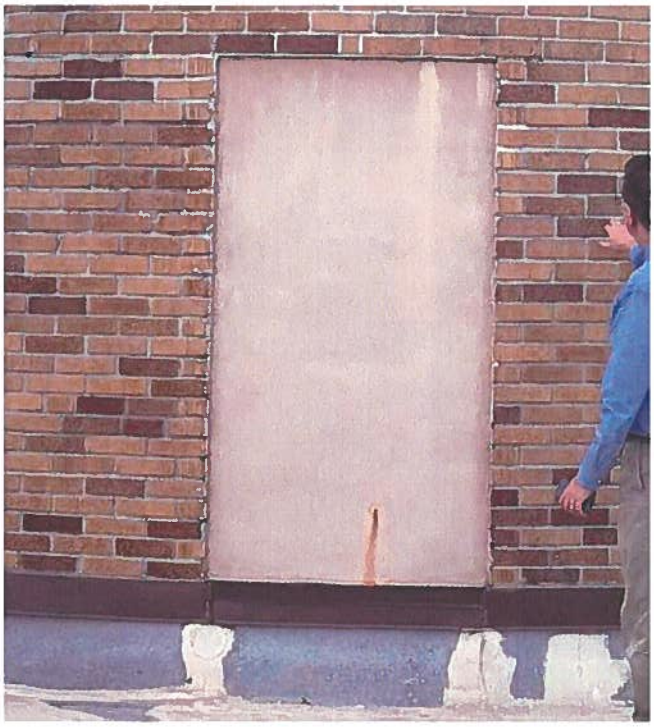
Roanoke
2125 Jefferson Street SW
Post Office Box 8279
Roanoke, VA 24014
540.595.7333
Larry Nichols, CSD
540.598.0702

Ft. Myers
2211 Widman Way, Suite 220
Ft. Myers, FL 33901
Mark Hughes, AIA
941.441.5740
Obadiah Swafford, AIA
407.749.9033

View of loose brick mortar that needs to be tuck pointed and degraded vent and window limestone sills that need to be replaced



View of wood wall section that was used to infill a previous exterior door location

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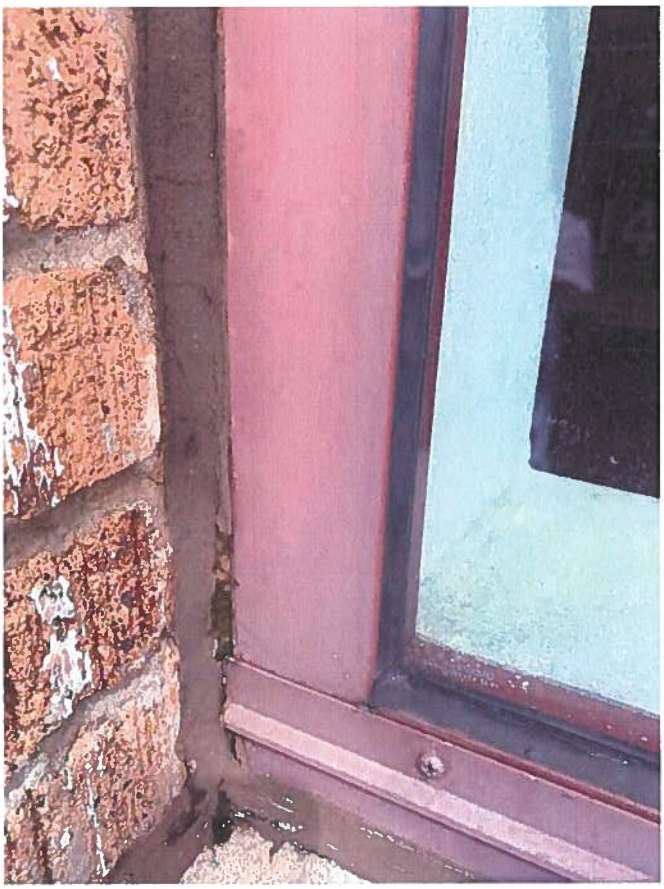
Roanoke
2125 Jefferson Street SW
Post Office Box 8279
Roanoke, VA 24014
540.595.7333
Larry Nichols, CSD
540.598.0702

Ft. Myers
2211 Widman Way, Suite 220
Ft. Myers, FL 33901
Mark Hughes, AIA
941.441.5740
Obadiah Swafford, AIA
407.749.9033



View of existing steel impact windows that only meet Large Missile D testing requirements, not Large Missile E testing requirements

Sincerely,

Obadiah Swafford, AIA
Principal-Architect
Capstone Project Services, PLC
AA26002199

capstoneps.net

Roanoke
2125 Jefferson Street SW
Post Office Box 8279
Roanoke, VA 24014
540.595.7333
Larry Nichols, CSD
540.598.0702

Ft. Myers
2211 Widman Way, Suite 220
Ft. Myers, FL 33901
Mark Hughes, AIA
941.441.5740
Obadiah Swafford, AIA
407.749.9033

Spelman Engineering, Inc.
6296 Corporation Court, Building A Suite 201, Fort Myers, FL 339
Mailing Address: PO Box 3519, North Fort Myers, FL 33918
239-770-2930 cspelman@spelmanengineering.com
Certificate of Auth.: 26955 ~ Florida License: 34925
www.spelmanengineering.com

Fire Station 14, 301 N Mango Street, Sebring, Fl 33870, located in Highlands County. This is a 'critical facility' providing fire protection, rescue, and hazard mitigation services to the residents of the City of Sebring. The FEMA flood map 12055C119C located in Zone X. The generator is elevated >6+ inches on a concrete poured in place, 80" x 160", pad and protected by a chain link fence. Two Bollards (3") protect the vehicle traffic side, see photo 01. The steel enclosure housing is, outdoor rated, with no sound attenuation, showing signs of rust deterioration, to the mounting frame, roof and doors, see photo 2. The generator has 1,131 running hours and was manufactured (per the serial number C940536941) in March,1994 (25 to 30 years is the life expectancy for natural gas generators with best conditions and maintenance) photo 3 & 4. The existing generator is a Onan 75ENAD, 75kW, 208Y/120V, 3Ø, generator. The funding will be used to replace the existing generator with a proposed Kohler equivalent Model KG80 (77kW) with 4P10X alternator in a Hurricane rated, Weather and Sound Attenuating Aluminum enclosure.

Photo 1

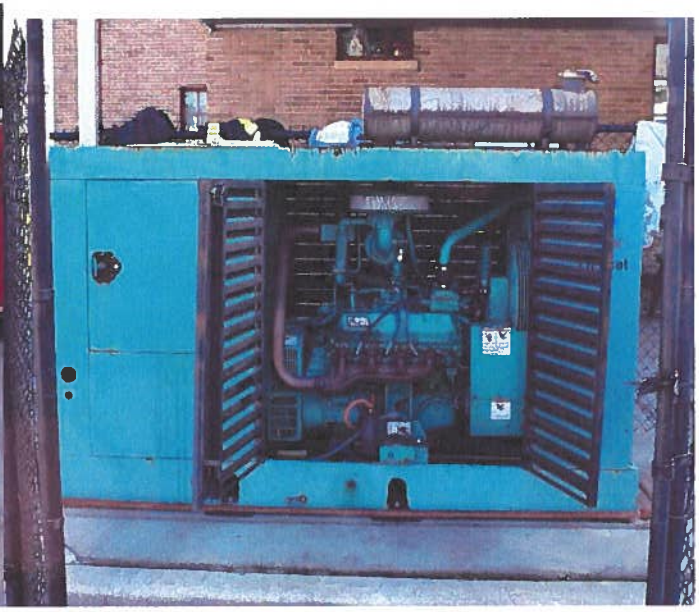


Photo 2

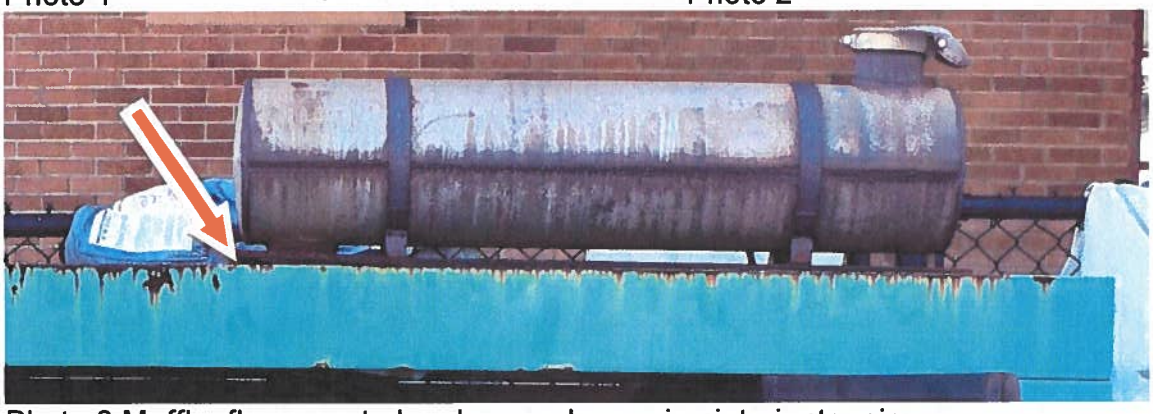


Photo 3 Muffler flange rusted and warped exposing interior to rain

Photo 4

Photo 5

Photo 6

Photo 7

The automatic transfer switch (ATS) ASCO, Model E is obsolete, (Model E00300030400C1XC) the Series 300 has become a Manual Transfer Switch series, the exercise clock has been replaced in approximately 2007, (photo 5) per the identification tag. The funding will be used to replace the existing ATS with a Kohler KCS-ACTA-0400-S, 400A, 3-pole, 4-wire, indoor non-service, rated automatic transfer switch.

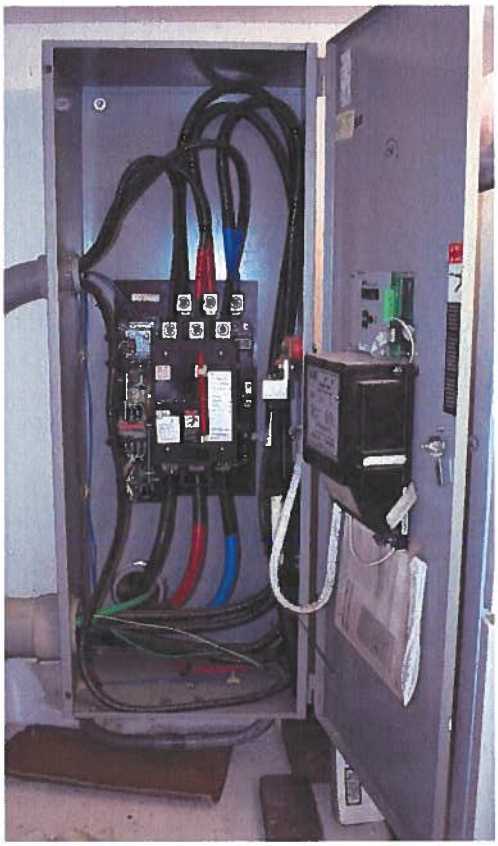


Photo 8

Photo 9

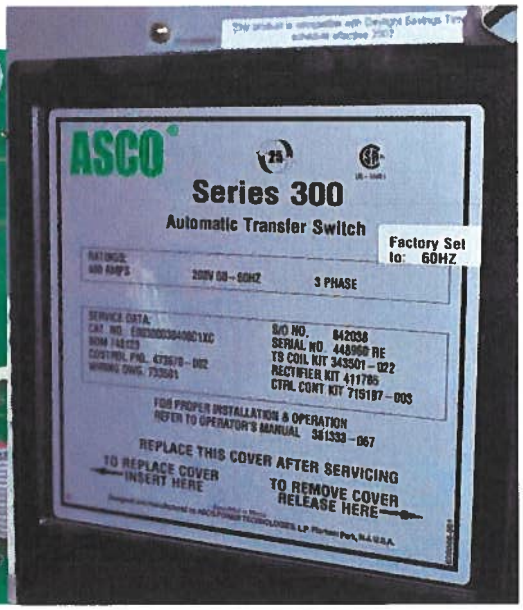


Photo 10

blot engineering, inc.
Structural
Civil
Consulting

2804 S. Del Prado Blvd.
Suite 101
Cape Coral, FL 33904
(239) 257-1780 (O)
(239) 257-1806 (F)

5420 Martindale Rd.
Shawnee, KS 66218
(913) 441-1636 (O)
(913) 745-5700 (F)

www.blotengineering.com

June 11, 2020

City of Sebring
Attn: Bob Hoffman
368 Commerce Ave.
Sebring, FL 33870

RE: Police Station Facility Hardening Assessment Report
307 N. Ridgewood Dr., Sebring, FL 33870
CDBG-MIT Grant Engineering

Mr. Hoffman:

Blot Engineering Inc. (BEI) appreciates the opportunity to provide this Facility Hardening Assessment report to the City of Sebring (CITY) for the above project. BEI's scope of work included performing a visual inspection of the building roof, doors and windows; and to provide an assessment as to the hardened condition of each system component. Load capacity calculations, load ratings, and/or detailed engineering and specifications for any needed repairs are outside the current scope BEI's services.

An on-site inspection was performed on 6/03/20 and 6/04/20 for this facility.

This report will outline the findings of our Facility Hardening Assessment services along with any associated recommendations for corrective measures. The comments listed below from the investigation were derived from combinations of field observations and standard industry practices.

PROJECT DESCRIPTION

The City of Sebring Police Station is considered an essential facility and is intended to remain occupied by first responders during hurricane and tropical storm events. This downtown Sebring historic building was built in 1940, and served as the United States Post Office until 1972 when the City secured the building for its Police Station headquarters. This police station serves the entire City of Sebring. The CITY would like to have an independent evaluation of the building roof, doors and windows; and to identify any areas where the facility could be hardened in order to mitigate emergency-related challenges and allow this critical facility to remain fully functional in the event of a hurricane or tropical storm.

ARCHITECTURAL BUILDING DOOR/WINDOW ASSESSMENT

Please reference the attached assessment from Capstone Project Services for details and condition of the existing building doors and window system.

ROOF STRUCTURAL ASSESSMENT

The building roof system is comprised of a gable roof along the front half of the building, and a flat roof along the rear half of the building (see Photos 1, 2 & 3).

Gable Roof. The gable roof system consists of 2x10 wood rafters spaced at 16" on center. The eves of the roof rafters bear on a wood plate supported by structural steel beams. The ridge of the wood rafters are supported by a (2) 2x8 wood ridge beam which is supported by a 2x4 wood load-bearing wall sitting on a structural steel beam (see Photo 4). The gable roof rafters were analyzed for the current Florida Building Code wind pressure loads, and were found to be structurally adequate. However upon further inspection, the roof rafters are only connected at the eves and ridge beam with toenails (see Photo 5). This method of anchoring roof rafters is not structurally adequate to resist the design wind pressure loads.

Flat Roof. The flat roof system consists of 2x8 roof joists at 16" on center supported by structural steel beams or (2) 2x wood girder beams. The wood roof joists were analyzed for the current Florida Building Code wind pressure loads, and were found to be structurally adequate. However upon further inspection, the roof joists are only connected at the eves and girder beams with toenails (see Photos 6 & 7). This method of anchoring roof joists is not structurally adequate to resist the design wind pressure loads.

FACILITY HARDENING RECOMMENDATIONS

The following Architectural and Engineering building components have been identified as risks to the resiliency of the facility along with recommended mitigation of these risks as outlined below:

1. Doors and Windows. The current Florida Building Code requires Risk Category IV essential facilities to be provided with Large Missile E tested doors and windows. The doors and windows at the Police Station do not meet this criterion, and are at risk for fenestration failure during a hurricane or tropical storm event. This risk is proposed to be mitigated by replacing all doors and windows with Large Missile E tested doors and windows.

2. Dry Proofing. The front gable of the Police Station roof has an internal gutter system which collects water inside the roof attic, and is routed to downspouts internal to the building prior to discharging through exterior walls at grade level. This internal gutter system has been prone to leaking over the years causing damage to the interior finishes of

this historic building. In addition, the gable tile roof sustained significant damage from the winds of Hurricane IRMA; and although the damage was repaired, the roofing system was not upgraded to resist future storm events. This risk is proposed to be mitigated through dry-proofing repairs to reconstruct the gutter system external to the building, and to provide roofing & flashing repairs for the gable roof.

3. Roof Structural Modifications. The following roof support structure components have been assessed with recommendations for mitigation:
    a. Gable Roof Wood Rafter & Ridge Beam Hurricane Tie-Down Connections. The existing wood roof rafter and ridge beam connections were inspected at periodic locations and found to have only toenail attachments for anchorage. These toenail connections are not adequate to resist the design wind pressure loads; and new hurricane tie-down connections need to be installed throughout the gable roof to structurally anchor the roof rafters and ridge beam. This work can be done from underneath the rafters, but will require removal/replacement of the existing particle board sheathing along the bottom face of the rafters as required to access the ridge and eve areas needed for installation of new tie-down connections.
    b. Flat Roof Wood Purlin Hurricane Tie-Down Connections. The existing flat roof wood purlins were inspected at periodic locations and found to have only toenail attachments for anchorage. These toenail connections are not adequate to resist the design wind pressure loads; and new hurricane tie-down connections need to be installed throughout the flat roof to structurally anchor the roof purlin end connections. Partial removal and replacement of the 2nd Floor ceilings will be required to access the flat roof wood purlins from below for the work required.
    c. The above roof components are subject to uplift failure during design hurricane wind speeds; and if they were to fail, the police station building, assets, and operations could be compromised.

CONCLUSIONS

In order to increase the resiliency of this critical facility, door/window replacement and roof rafter/joist anchorage upgrades are recommended to harden the facility against the hazards of hurricane and tropical storm wind damage. Blot Engineering recommends that any building modifications to the facility be designed and engineered by Licensed Florida Professional Engineers and Architects.

Blot Engineering Inc. has exercised reasonable skill, care, and diligence in the performance of its services and has carried out its responsibilities in accordance with customarily accepted professional engineering practices in Engineer's community. No warranty, expressed or implied, is included with these Assessment services or in any opinion produced by this report.

This report concludes our Facility Hardening Assessment services for the above site location. Should you have questions regarding the above, please feel free to contact me at 239-257-1780.

Sincerely,

Digitally signed by
Edward M Blot
Date: 2020.06.11
14:07:03 -04'00'

Edward M. Blot, P.E.
Blot Engineering, Inc.

Photo 1: Police Station Roof (South Elevation)

Photo 2: Police Station Roof (South/East Elevation)

Photo 3: Police Station Roof (North Elevation)

Photo 4: Gable Roof Ridge Beam Support

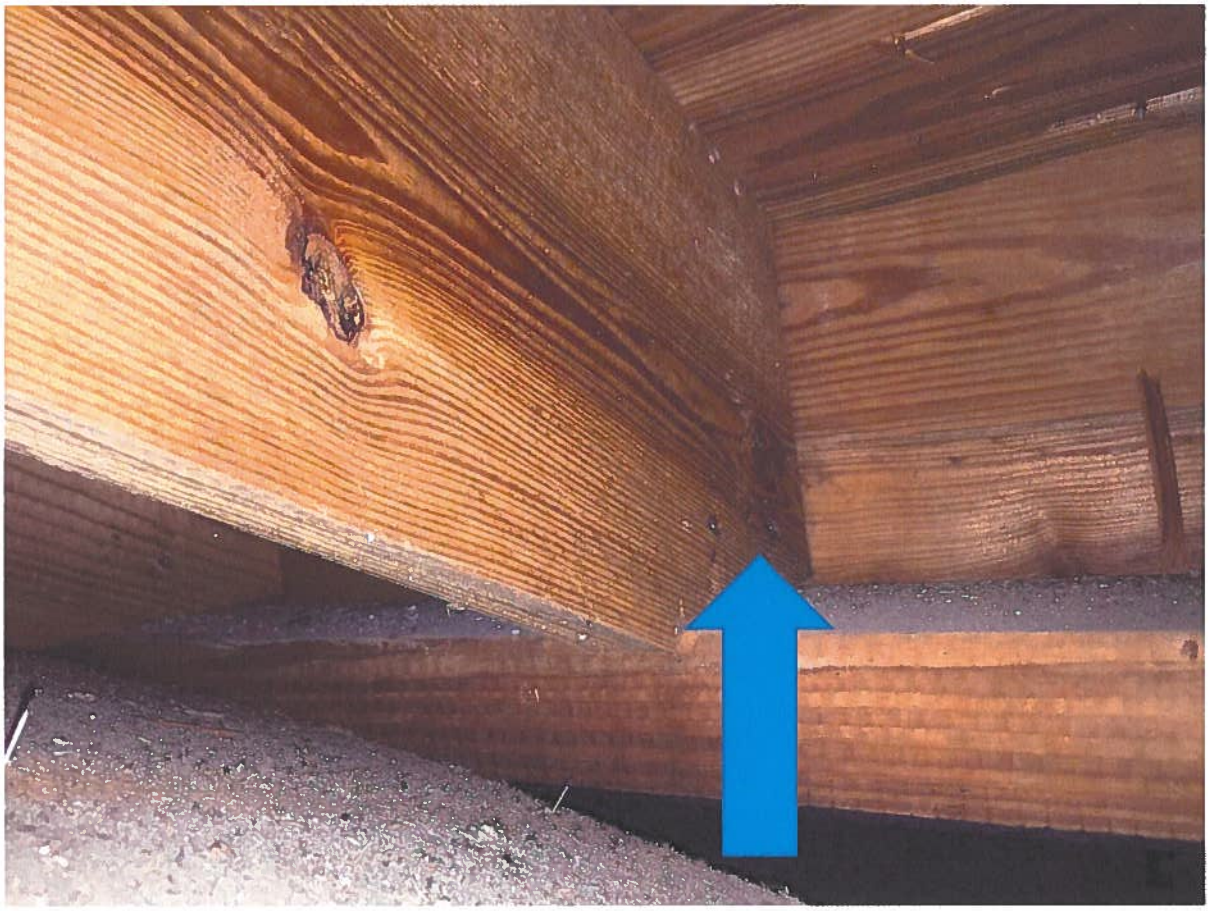


Photo 5: Gable Roof Rafter Toenail Connection at Eve

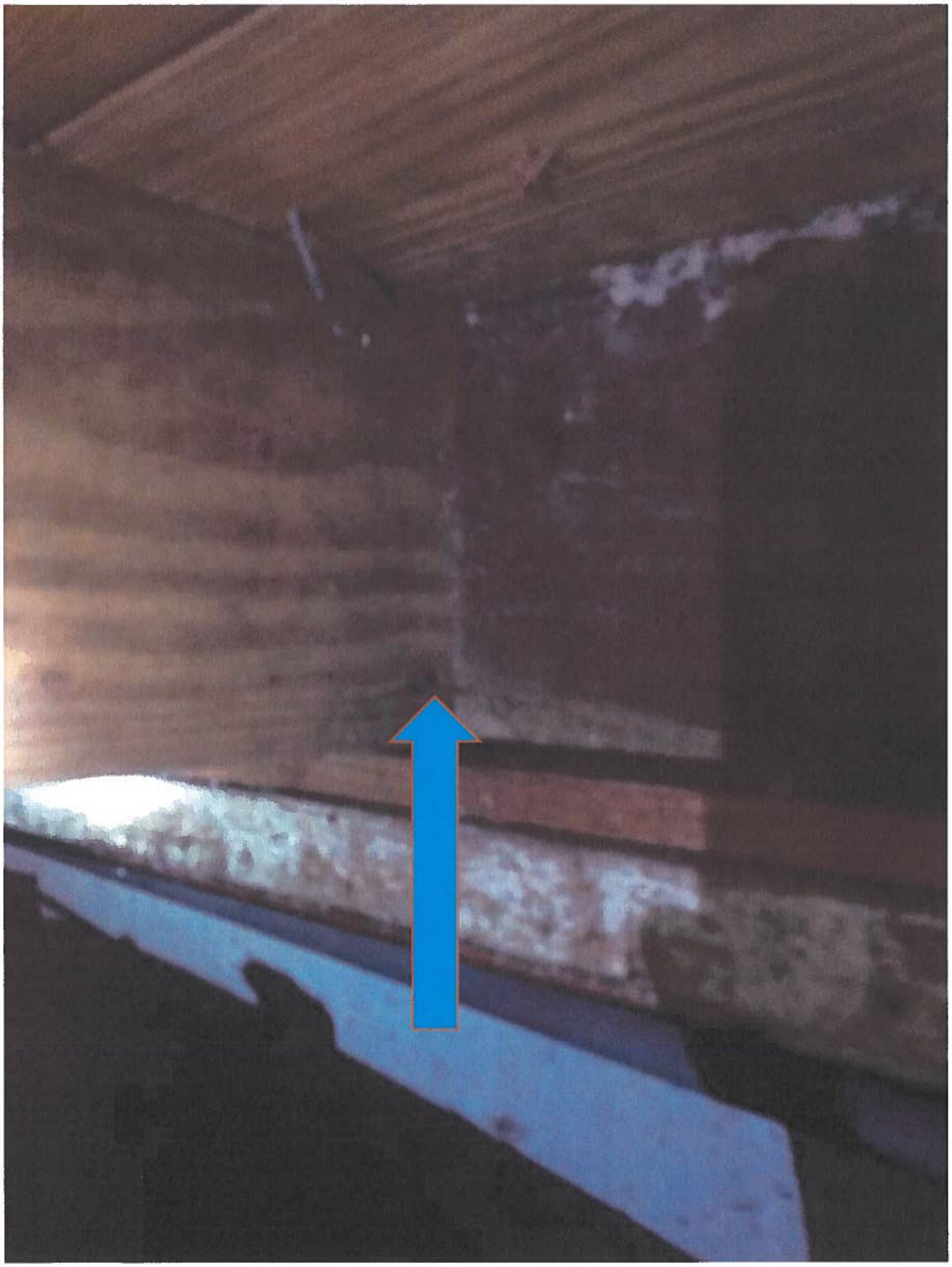


Photo 6: Flat Roof Joist Single Toenail Connection at Eve

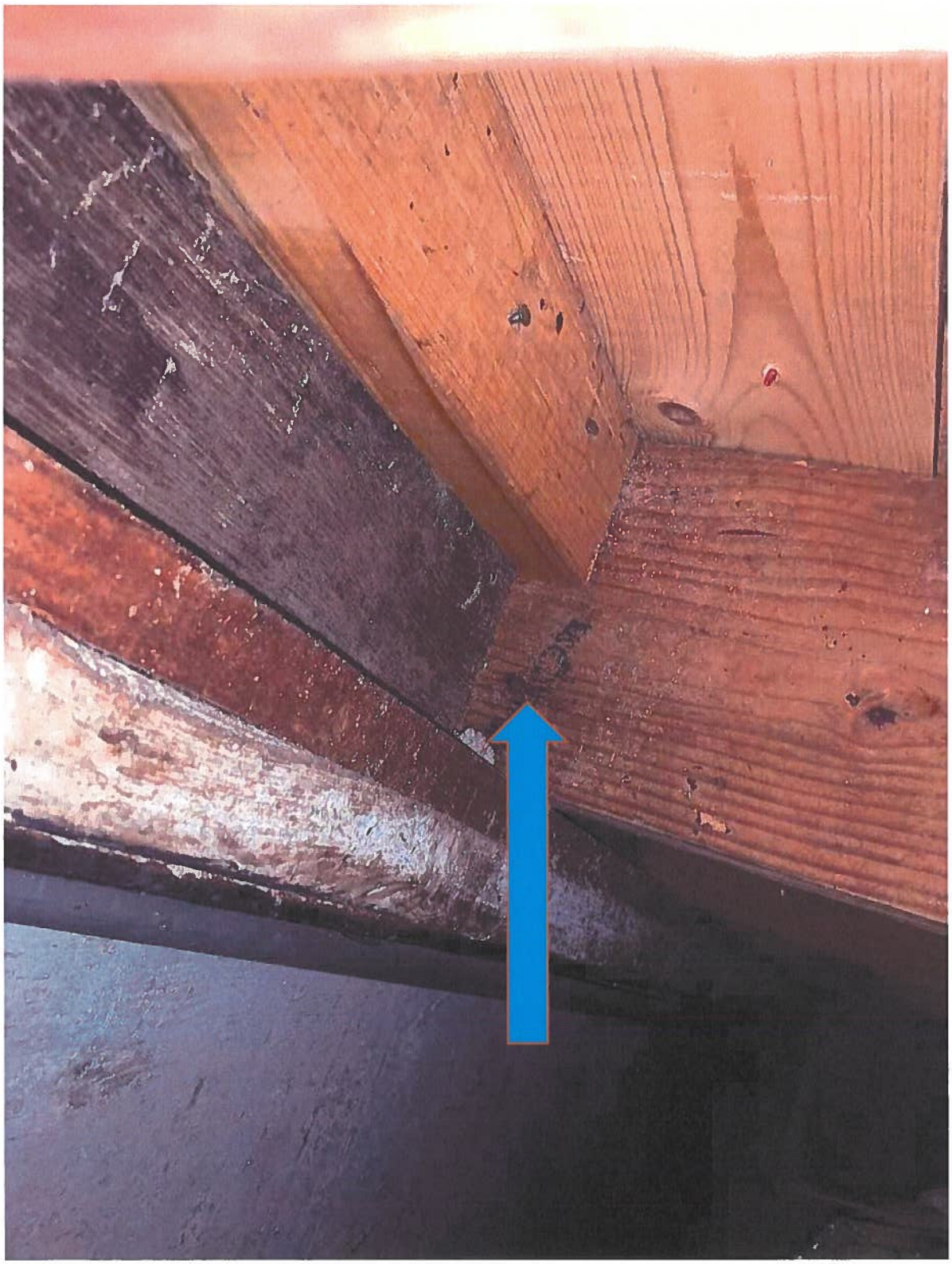


Photo 7: Flat Roof Joist Single Toenail Connection at Eve

CAPSTONE
project services, plc

Architecture | Project Management | Consulting | As-Built Surveys

June 8, 2020

To: Ed Blot - Blot Engineering, Inc
2804 S. Del Prado Blvd., Suite 101
Cape Coral, FL 33904
Re: City of Sebring – Hardening and Mitigation Report – **Police Station**

This building, being a Police Station, is considered an essential facility and is intended to remain occupied by first responders during hurricane and tropical storm events. This facility would therefore be considered a risk category IV building and would be a candidate for a facility hardening project. The hardening efforts would be subject to the wind speed map shown on table 1609.3(2) in the 2017 Florida Building Code - Building, Sixth Edition.

The design wind speed shown on table 1609.3(2) for this building would be 147 MPH. This design wind speed would place this building in a WIND-BORNE DEBRIS REGION as defined in chapter 2 of the 2017 Florida Building Code - Building, Sixth Edition: *...areas where the ultimate design wind speed is 140 mph (63.6 m/s) or greater.*

Per section 1626.2.4 of the 2017 Florida Building Code - Building, Sixth Edition: *The large missile shall impact the surface of each test specimen at a speed of ... 80 feet per second (24.38 m/s) for Risk Category IV–Essential Facility buildings or structures.* This is consistent with current Large Missile E testing requirements for doors and windows. Therefore the doors and windows should be brought up to Large Missile E testing requirements.

The building design criteria shown on the documents for the most recent renovation, states the code used to design the structural loading was the Florida Building Code – 2004 Edition. The large missile impact testing criteria for doors and windows as stated in FBC 2004 section 1626.2.4 is*: The large missile shall impact the surface of each test specimen at a speed of 50 feet per second.* This is consistent with current Large Missile D testing requirements, and the fenestration currently installed at this facility appears to have been designed and tested to the Missile D testing standards.

Therefore, the doors and windows of this facility should be replaced to meet the current requirements of the Florida Building Code (Large Missile E testing requirements) to maintain critical Police and safety services for the community. Not having these services available, due to fenestration failure at this facility would negatively impact the safety of the Citizens of the City of Sebring.

The tile portion of the roof of this building is known to be inadequate to resist wind and rain events. The current roof sustained significant damage from the winds of Hurricane Irma. The damage was repaired, but the roofing system was not upgraded to resist future storm events. This along with the internal guttering system reportedly allowed for water intrusion during this recent storm event. Hardening this portion of the roof will help to maintain the continuity of essential policing services.

View of Hurricane Irma roof damage and failing internal roof gutter system

capstoneps.net

Roanoke
2125 Jefferson Street SW
Post Office Box 8279
Roanoke, VA 24014
540.595.7333
Larry Nichols, CSD
540.598.0702

Ft. Myers
2211 Widman Way, Suite 220
Ft. Myers, FL 33901
Mark Hughes, AIA
941.441.5740
Obadiah Swafford, AIA
407.749.9033

View of the front entry of the Police Station

View of the internal roof gutter with evidence of water intrusion

Sincerely,

Obadiah Swafford, AIA
Principal-Architect
Capstone Project Services, PLC
AA26002199

capstoneps.net

Roanoke
2125 Jefferson Street SW
Post Office Box 8279
Roanoke, VA 24014
540.595.7333
Larry Nichols, CSD
540.598.0702

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blot engineering, inc.
Structural
Civil
Consulting

2804 S. Del Prado Blvd.
Suite 101
Cape Coral, FL 33904
(239) 257-1780 (O)
(239) 257-1806 (F)

5420 Martindale Rd.
Shawnee, KS 66218
(913) 441-1636 (O)
(913) 745-5700 (F)

www.blotengineering.com

June 11, 2020

City of Sebring
Attn: Bob Hoffman
368 Commerce Ave.
Sebring, FL 33870

RE: Sebring Veteran's Beach Generator Assessment Report
400 Lakeside Rd., Sebring, FL 33870
CDBG-MIT Grant Engineering

Mr. Hoffman:

Blot Engineering Inc. (BEI) appreciates the opportunity to provide this Generator Assessment report to the City of Sebring (CITY) for the above project. BEI's scope of work included performing a visual inspection of the generator and transfer switch equipment; and to provide an assessment as to the condition of the system. Load capacity calculations, load ratings, and/or detailed engineering and specifications for any needed repairs are outside the current scope BEI's services.

An on-site inspection was performed on 6/02/20.

This report will outline the findings of our Generator Assessment services along with any associated recommendations for corrective measures. The comments listed below from the investigation were derived from combinations of field observations and standard industry practices.

PROJECT DESCRIPTION

Veteran's Beach Water Production facility is considered a critical facility for the City of Sebring in providing water to the fire protection system (hydrants) and domestic water to residents of Sebring. The CITY would like to have an independent evaluation of the backup power supply system, and to identify any areas where the system could be hardened in order to mitigate emergency-related challenges and allow this critical facility to remain fully functional in the event of a power failure.

GENERATOR ASSESSMENT

Please reference the attached assessment from Spelman Engineering for details and condition of the existing generator system.

HARDENING RECOMMENDATIONS

Considering the overall age and condition, this generator has reached the end of its service life. With limited parts availability, the resiliency of this backup power supply is in question should extensive maintenance or repairs be needed. It is proposed to mitigate this risk by replacing the existing generator with a proposed Kohler Model 250REOZJE, (250kW) with 4UA10 alternator in a Hurricane rated, Weather and Sound Attenuating Aluminum enclosure & 1000 gallon subbase fuel tank, and a 400A, 3pole, 4-wire ATS with a retrofit switch and controller. This will include the ability to read data from the generator thru the existing SCADA system.

CONCLUSIONS

In order to provide resiliency for the backup power supply at this critical facility, both the generator and ATS are recommended to be replaced. Blot Engineering recommends that any modifications to the facility's backup power supply system be designed and engineered by a Licensed Florida Professional Engineer.

Blot Engineering Inc. has exercised reasonable skill, care, and diligence in the performance of its services and has carried out its responsibilities in accordance with customarily accepted professional engineering practices in Engineer's community. No warranty, expressed or implied, is included with these Assessment services or in any opinion produced by this report.

This report concludes our Generator Assessment services for the above site location. Should you have questions regarding the above, please feel free to contact me at 239-257-1780.

Sincerely,

Digitally signed by
Edward M Blot
Date: 2020.06.11
11:17:23 -04'00'

Edward M. Blot, P.E.
Blot Engineering, Inc.

Spelman Engineering, Inc.
6296 Corporation Court, Building A Suite 201, Fort Myers, FL 3391
Mailing Address: PO Box 3519, North Fort Myers, FL 33918
239-770-2930 cspelman@spelmanengineering.com
Certificate of Auth.: 26955 ~ Florida License: 34925
www.spelmanengineering.com

Veteran's Beach Water Production Site, 400 Lakeside Road, Sebring, Fl 33870, located in Highlands County. The FEMA flood map 12055C119C located in Zone X. This is a 'critical facility' providing water to fire protection system (hydrants) and domestic water to residents of the City of Sebring.
We observed the existing Kohler Automatic Transfer Switch, 400A, 3-pole, 4-wire mounting inside the Motor Control Center and we propose a retrofit for this that mounts into the existing enclosure.
This generator has approximately 1,669 running hours and was manufactured (per the serial number 358270) in April,1995, this 25-year old generator has a 2-stroke engine and some components are no longer available. The subbase fuel tank is absent of secondary venting, also, NFPA 110 Emergency and Stand-By Power Systems 7.9.1.3. '*Tanks shall be sized so that the fuel is consumed within the storage life, or provisions shall be made to remediate fuel that is stale or contaminate*' therefore we recognize a full replacement in lieu of refurbish of the existing EPS.
The existing generator is a Kohler 250ROZD71, 250kW, 480Y/277V, 3Ø, generator, sized correctly for the demand load (photo 6) and located on a concrete pad at grade and protected by a chain link fence. The Generator has a steel enclosure, interior photos show the overall condition (photo 2,3) Engine pre-alarms lit for high engine temperature, low oil pressure and high battery voltage (photo 5)

The funding will be used to replace the existing generator with a proposed Kohler Model 250REOZJE, (250kW) with 4UA10 alternator in a Hurricane rated, Weather and Sound Attenuating Aluminum enclosure & 1000 gallon subbase fuel tank and the 400A, 3pole, 4-wire ATS with a retrofit switch and controller. We are including the ability to read data from the generator thru the existing SCADA system.

Photo 1

Photo 2

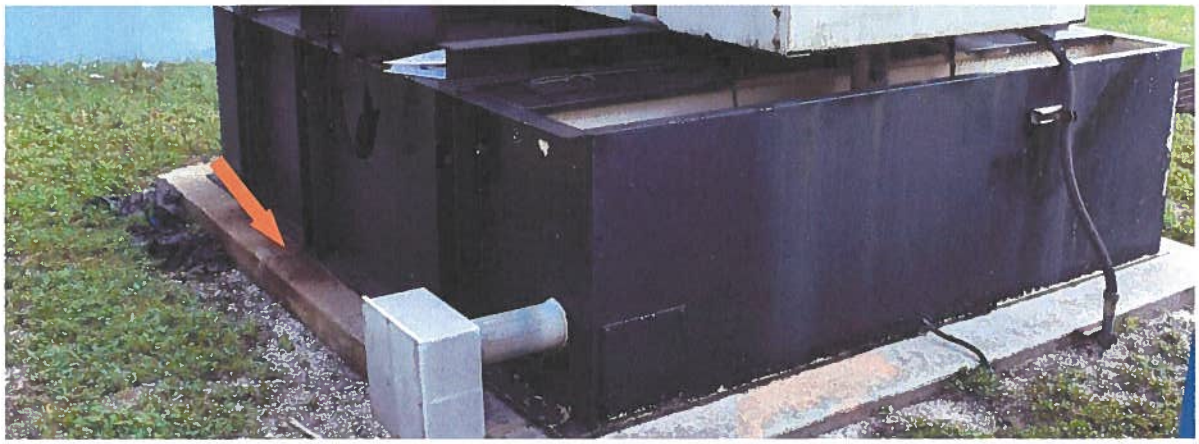

Photo 3 (steel fuel tank resting on concrete without air space, tank rusts from bottom up)

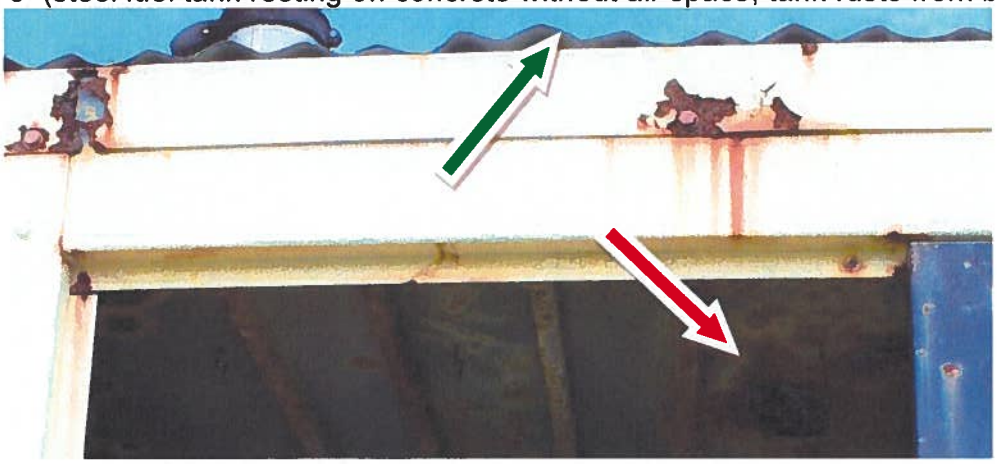

Photo 4 (corragated metal (green) screwed to top of rusted enclosure (red))

Photo 5

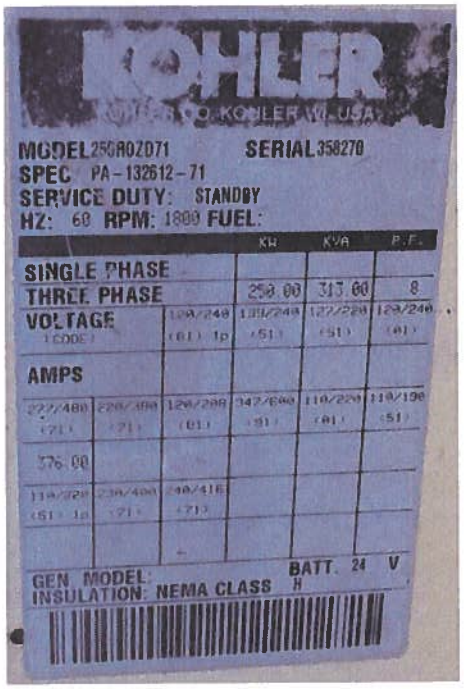

Photo 6

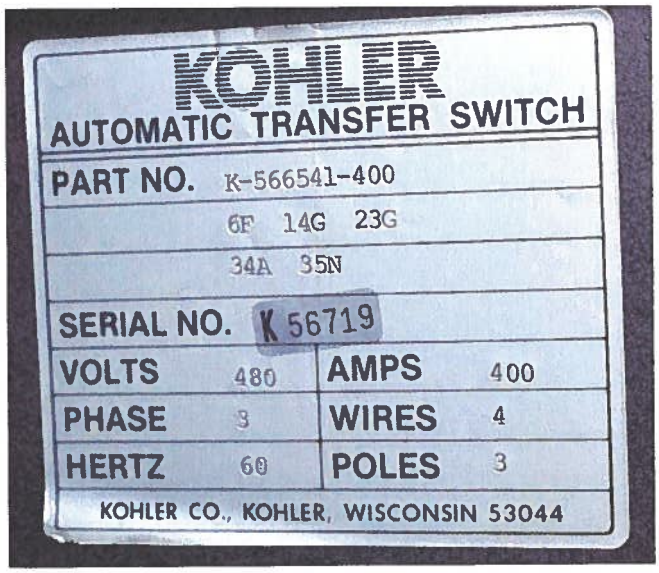

Photo 7

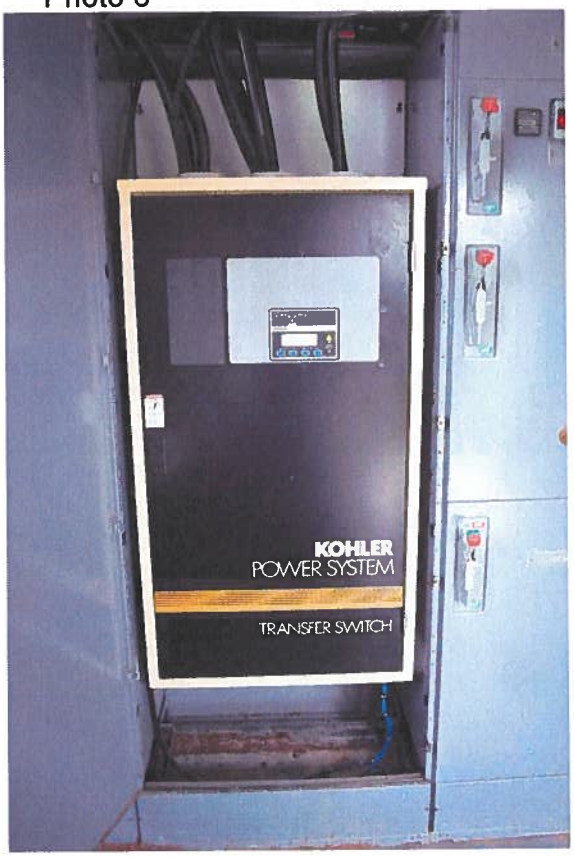

Photo 8

Photo 9 (Motor Control Center, ATS cabinet (orange)

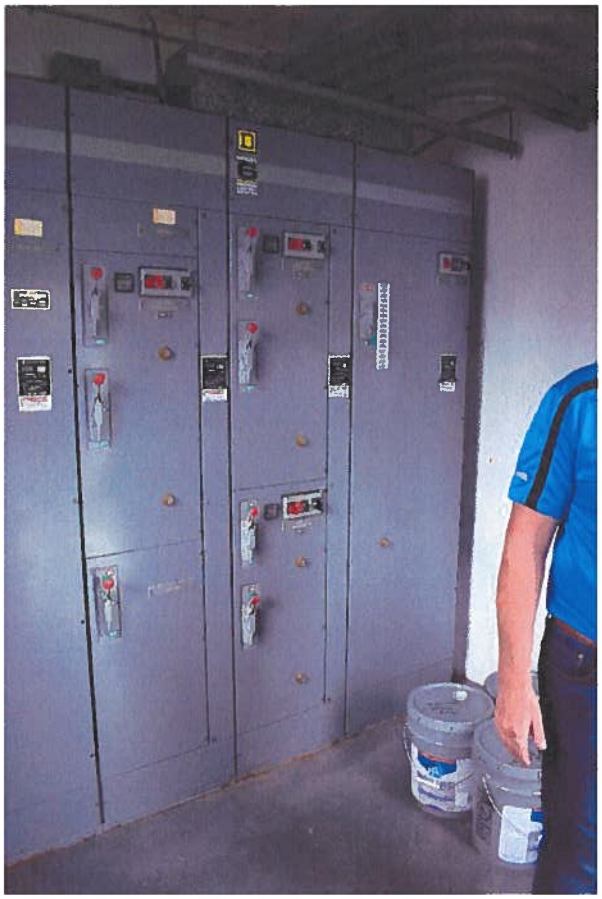

Photo 10

blot engineering, inc.
Structural
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Consulting

2804 S. Del Prado Blvd.
Suite 101
Cape Coral, FL 33904
(239) 257-1780 (O)
(239) 257-1806 (F)

5420 Martindale Rd.
Shawnee, KS 66218
(913) 441-1636 (O)
(913) 745-5700 (F)

www.blotengineering.com

June 11, 2020

City of Sebring
Attn: Bob Hoffman
368 Commerce Ave.
Sebring, FL 33870

RE: Park Street Generator Assessment Report
422 Park Street, Sebring, FL 33870
CDBG-MIT Grant Engineering

Mr. Hoffman:

Blot Engineering Inc. (BEI) appreciates the opportunity to provide this Generator Assessment report to the City of Sebring (CITY) for the above project. BEI's scope of work included performing a visual inspection of the generator and transfer switch equipment; and to provide an assessment as to the condition of the system. Load capacity calculations, load ratings, and/or detailed engineering and specifications for any needed repairs are outside the current scope BEI's services.

An on-site inspection was performed on 6/02/20.

This report will outline the findings of our Generator Assessment services along with any associated recommendations for corrective measures. The comments listed below from the investigation were derived from combinations of field observations and standard industry practices.

PROJECT DESCRIPTION

Park Street Water Production facility is considered a critical facility for the City of Sebring in providing water to the fire protection system (hydrants) and domestic water to residents of Sebring. The CITY would like to have an independent evaluation of the backup power supply system, and to identify any areas where the system could be hardened in order to mitigate emergency-related challenges and allow this critical facility to remain fully functional in the event of a power failure.

GENERATOR ASSESSMENT

Please reference the attached assessment from Spelman Engineering for details and condition of the existing generator system.

HARDENING RECOMMENDATIONS

Considering the overall age and condition, this generator has reached the end of its service life. With limited parts availability, the resiliency of this backup power supply is in question should extensive maintenance or repairs be needed. It is proposed to mitigate this risk by replacing the existing generator with a proposed Kohler Model 250REOZJE, (250kW) with 4UA10 alternator in a Hurricane rated, Weather and Sound Attenuating Aluminum enclosure with subbase fuel tank, and a 225A, 3pole, 4-wire ATS with a retrofit switch and controller. This will also include the ability to read data from the generator thru the existing SCADA system.

CONCLUSIONS

In order to provide resiliency for the backup power supply at this critical facility, both the generator and ATS are recommended to be replaced. Blot Engineering recommends that any modifications to the facility's backup power supply system be designed and engineered by a Licensed Florida Professional Engineer.

Blot Engineering Inc. has exercised reasonable skill, care, and diligence in the performance of its services and has carried out its responsibilities in accordance with customarily accepted professional engineering practices in Engineer's community. No warranty, expressed or implied, is included with these Assessment services or in any opinion produced by this report.

This report concludes our Generator Assessment services for the above site location. Should you have questions regarding the above, please feel free to contact me at 239-257-1780.

Sincerely,

Digitally signed by
Edward M Blot
Date: 2020.06.11
11:13:45 -04'00'

Edward M. Blot, P.E.
Blot Engineering, Inc.

Spelman Engineering, Inc.
6296 Corporation Court, Building A Suite 201, Fort Myers, FL 3391
Mailing Address: PO Box 3519, North Fort Myers, FL 33918
239-770-2930 cspelman@spelmanengineering.com
Certificate of Auth.: 26955 ~ Florida License: 34925
www.spelmanengineering.com

Park Street Water Production Site, 422 Park Street, Sebring, Fl 33870, located in Highlands County. The FEMA flood map 12055C119C located in Zone X. This is a 'critical facility' providing water to fire protection system (hydrants) and domestic water to residents of the City of Sebring.
We observed the existing Automatic Transfer Switch, 400A, 3-pole, 4-wire is an ASCO series 300 Model E (photo 4), that is not supported with replacement parts and the need to provide a manual transfer switch for safe switching operation, to support the remote generator connector box. (Photo 1, 2, 3)
The generator has 1574.5 running hours (photo 5, clock replaces 1533 + 41.5 new hours) and was manufactured in April,1995, this 25-year old generator has a 2-stroke engine with components that are no longer available. The subbase fuel tank is absent of secondary venting and shows signs of rust deterioration, therefore we recognize a full replacement of refurbish of the existing EPS.
The existing generator is a Kohler 250ROZD71, 250kW, 480Y/277V, 3Ø, generator (photo 6) located on a concrete pad at grade and protected by a chain link fence and aluminum roof. The Generator has a steel enclosure, interior photos show the overall condition (photo 2,3)

The funding will be used to replace the existing generator with a proposed Kohler Model 250REOZJE, (250kW) with 4UA10 alternator in a Hurricane rated, Weather and Sound Attenuating Aluminum enclosure with subbase fuel tank, and the 225A, 3pole, 4-wire ATS with a retrofit switch and controller. We are including the ability to read data from the generator thru the existing SCADA system.


Photo 1

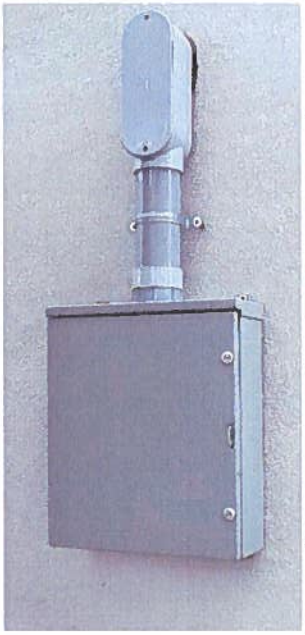
Photo 2

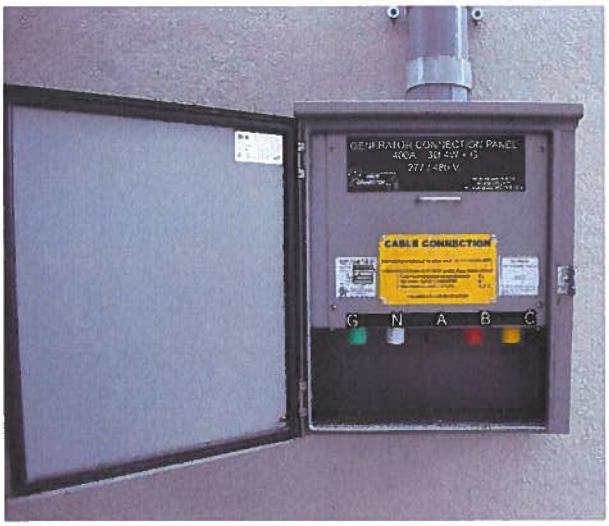

Photo 3

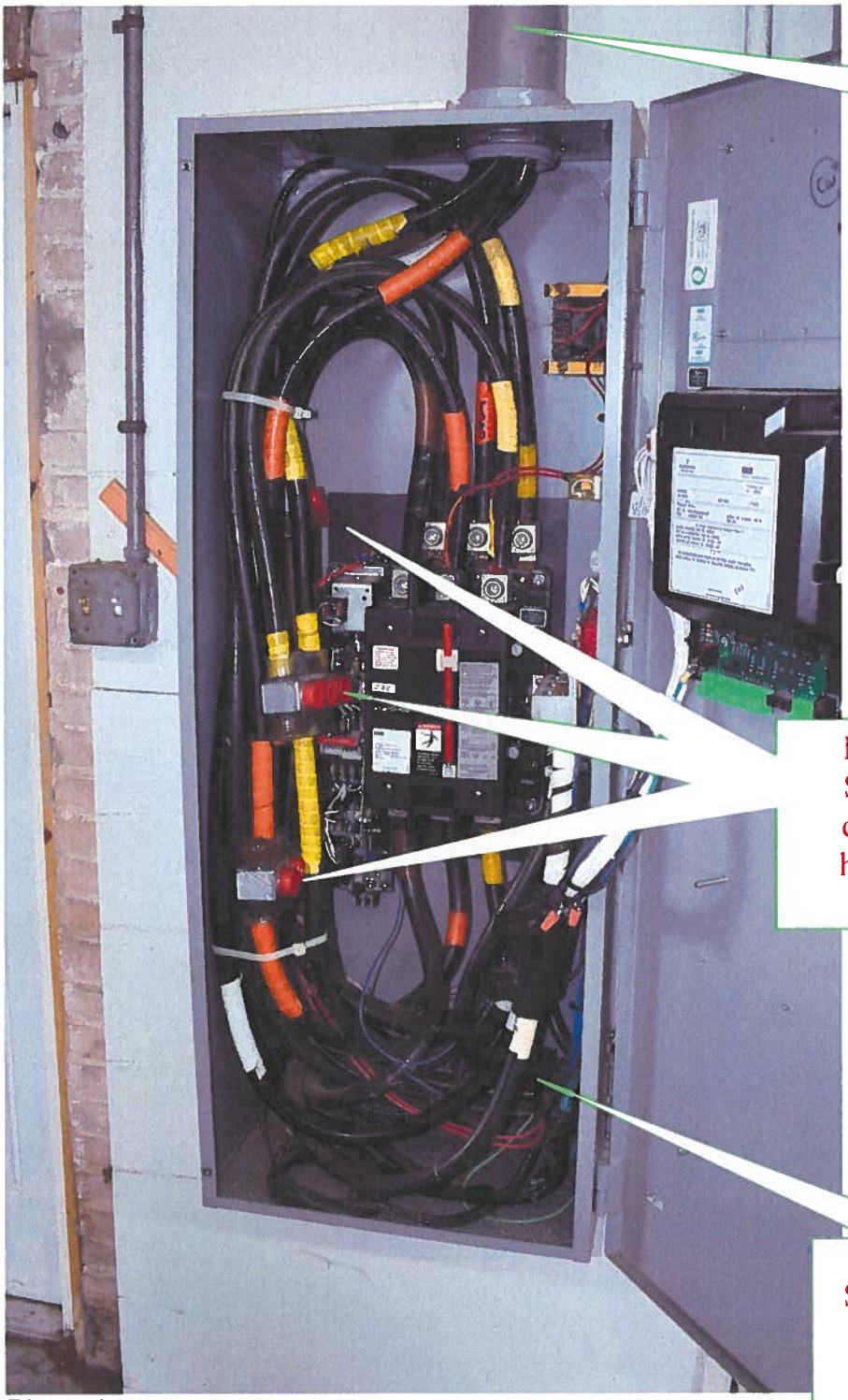
Conductors to remote connection box
Remote Portable and Stationary Generator connected, switching hazard, needs manual transfer switch.
Stationary Generator feeder enter from bottom

Photo 4

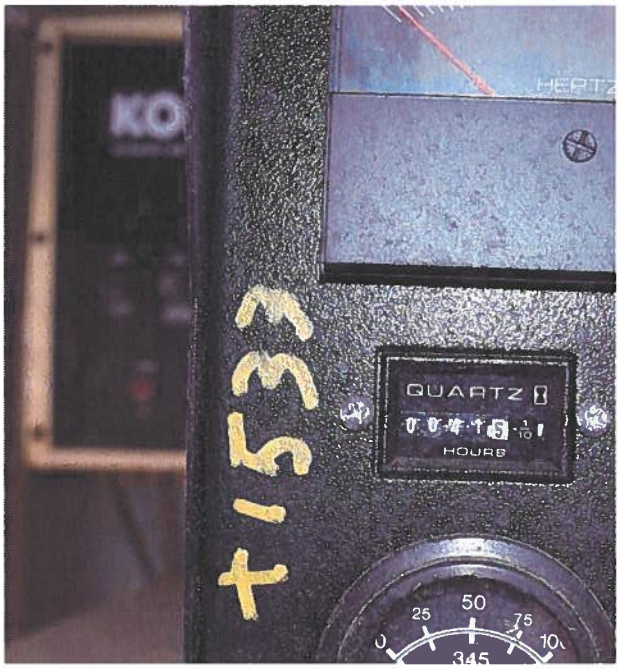

Photo 5

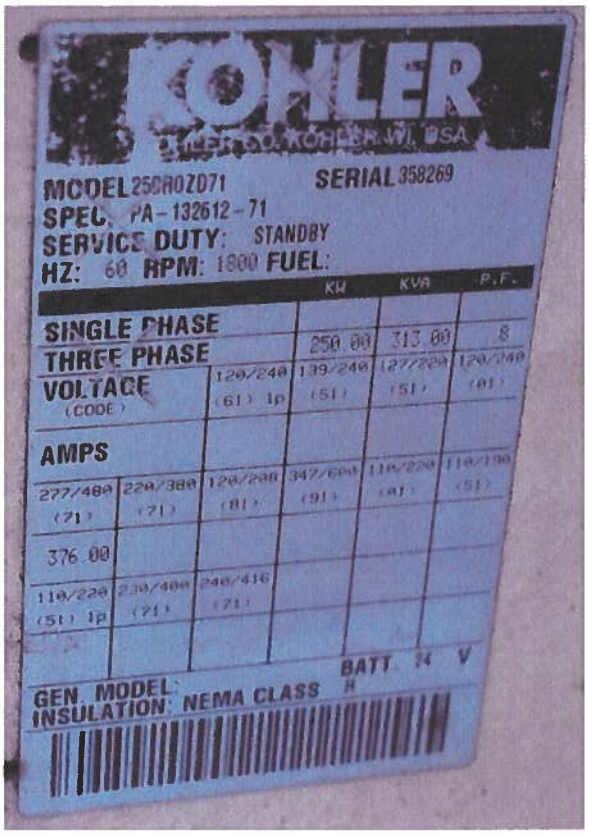

Photo 6

Photo 7

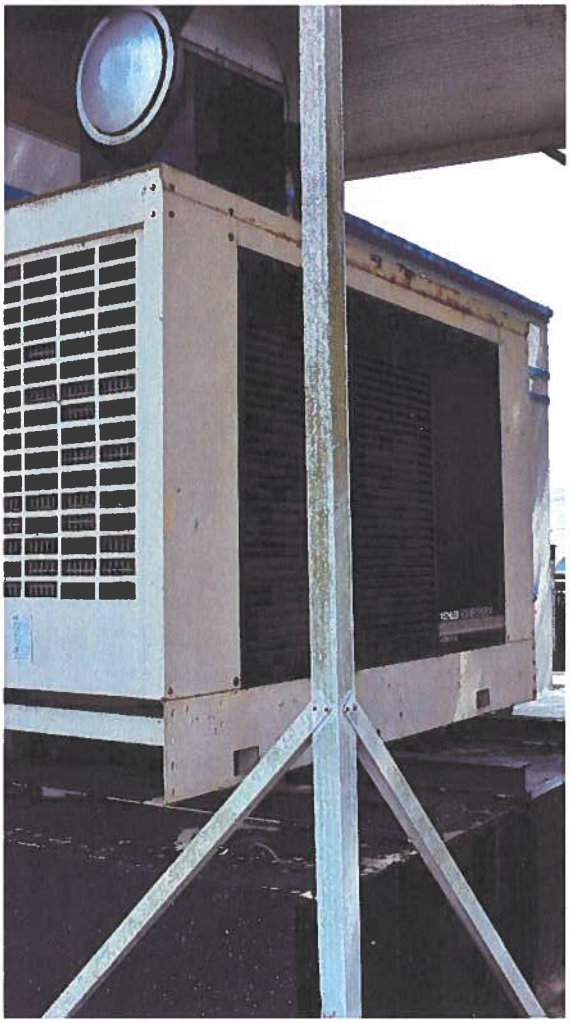

Photo 8

Photo 9 (this is the rusted out roof of the generator enclosure)

Photo 10

Photo 11 (close up of photo 10, steel fuel tank resting on concrete without air space)

Photo 12 – top of tank inspection port of tank liner

blot engineering, inc.
Structural
Civil
Consulting

2804 S. Del Prado Blvd.
Suite 101
Cape Coral, FL 33904
(239) 257-1780 (O)
(239) 257-1806 (F)

5420 Martindale Rd.
Shawnee, KS 66218
(913) 441-1636 (O)
(913) 745-5700 (F)

www.blotengineering.com

June 11, 2020

City of Sebring
Attn: Bob Hoffman
368 Commerce Ave.
Sebring, FL 33870

RE: Fireman's Field Generator Assessment Report
741 S. Commerce Ave, Sebring, FL 33870
CDBG-MIT Grant Engineering

Mr. Hoffman:

Blot Engineering Inc. (BEI) appreciates the opportunity to provide this Generator Assessment report to the City of Sebring (CITY) for the above project. BEI's scope of work included performing a visual inspection of the generator and transfer switch equipment; and to provide an assessment as to the condition of the system. Load capacity calculations, load ratings, and/or detailed engineering and specifications for any needed repairs are outside the current scope BEI's services.

An on-site inspection was performed on 6/02/20.

This report will outline the findings of our Generator Assessment services along with any associated recommendations for corrective measures. The comments listed below from the investigation were derived from combinations of field observations and standard industry practices.

PROJECT DESCRIPTION

Fireman's Field Water Production facility is considered a critical facility for the City of Sebring in providing water to the fire protection system (hydrants) and domestic water to residents of Sebring. The CITY would like to have an independent evaluation of the backup power supply system, and to identify any areas where the system could be hardened in order to mitigate emergency-related challenges and allow this critical facility to remain fully functional in the event of a power failure.

GENERATOR ASSESSMENT

Please reference the attached assessment from Spelman Engineering for details and condition of the existing generator system.

HARDENING RECOMMENDATIONS

Considering the overall age and condition, this generator has reached the end of its service life. With limited parts availability, the resiliency of this backup power supply is in question should extensive maintenance or repairs be needed. It is proposed to mitigate this risk by replacing the existing generator with a proposed Kohler Model 230REOZJ, (230kW) with 4UA13 alternator in a Hurricane rated, Weather and Sound Attenuating Aluminum enclosure with subbase fuel tank, and the 225A, 3pole, 4-wire ATS with a retrofit switch and controller. This will also include the ability to read data from the generator thru the existing SCADA system.

CONCLUSIONS

In order to provide resiliency for the backup power supply at this critical facility, both the generator and ATS are recommended to be replaced. Blot Engineering recommends that any modifications to the facility's backup power supply system be designed and engineered by a Licensed Florida Professional Engineer.

Blot Engineering Inc. has exercised reasonable skill, care, and diligence in the performance of its services and has carried out its responsibilities in accordance with customarily accepted professional engineering practices in Engineer's community. No warranty, expressed or implied, is included with these Assessment services or in any opinion produced by this report.

This report concludes our Generator Assessment services for the above site location. Should you have questions regarding the above, please feel free to contact me at 239-257-1780.

Sincerely,

Digitally signed by
Edward M Blot
Date: 2020.06.11
11:11:38 -04'00'

Edward M. Blot, P.E.
Blot Engineering, Inc.

Spelman Engineering, Inc.
6296 Corporation Court, Building A Suite 201, Fort Myers, FL 3391
Mailing Address: PO Box 3519, North Fort Myers, FL 33918
239-770-2930 cspelman@spelmanengineering.com
Certificate of Auth.: 26955 ~ Florida License: 34925
www.spelmanengineering.com

Fireman's Field Water Production Site, 741 S. Commerce Avenue, Sebring, Fl 33870, located in Highlands County. The FEMA flood map 12055C119C located in Zone X. This is a 'critical facility' providing water to fire protection system (hydrants) and domestic water to residents of the City of Sebring. The existing generator is a Kohler 230ROZD71, 230kW, 480Y/277V, 3Ø, generator

The generator is elevated >2+ inches on a concrete pad (photo1) and protected by a chain link fence. The Generator steel enclosure was recently painted making it look better than it is, the rust stains on the pad (photo 2) and interior photos show the overall condition (photo 2,3,5)

The generator has low 1,692 running hours (photo 6) and was manufactured (per the serial number 373409) in April,1995, this 25-year old generator has a 2-stroke engine and parts are no longer available. The subbase fuel tank is absent of secondary venting, therefore we recognize a full replacement in lieu of refurbish of the existing EPS.

We observed the existing Automatic Transfer Switch, 225A, 3-pole, 4-wire as original equipment and Kohler has a retrofit for this that mounts into the existing enclosure.

The funding will be used to replace the existing generator with a proposed Kohler Model 230REOZJ, (230kW) with 4UA13 alternator in a Hurricane rated, Weather and Sound Attenuating Aluminum enclosure with subbase fuel tank, and the 225A, 3pole, 4-wire ATS with a retrofit switch and controller. We are including the ability to read data from the generator thru the existing SCADA system.

Photo 1

Photo 2

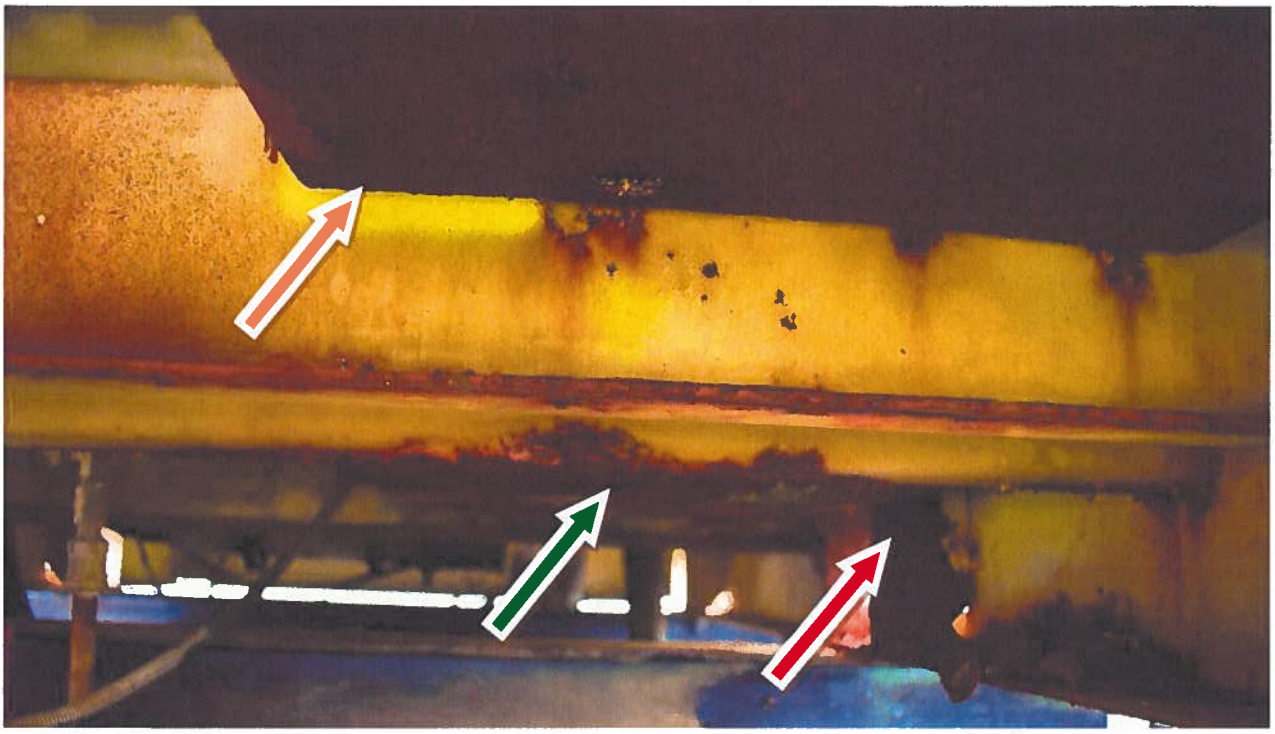

Photo 3 – generator terminal cabinet (orange), bottom of alternator (green), frame (red)

Photo 4

Photo 5

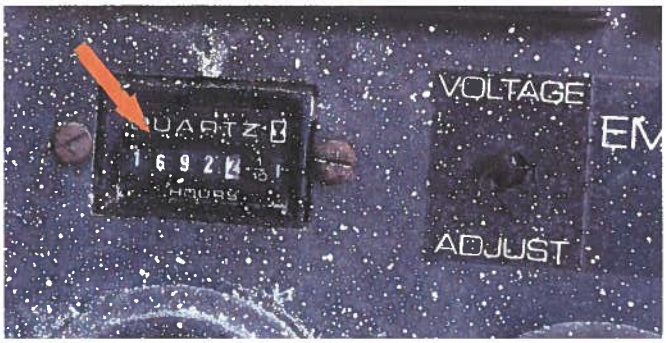

Photo 6

Existing ATS in Motor Control Center

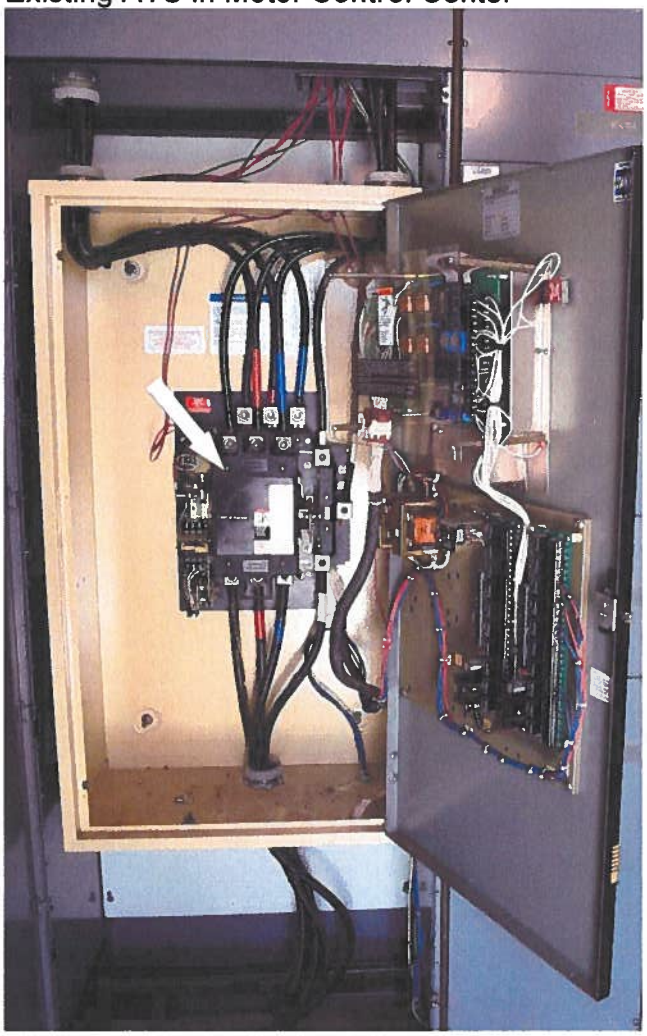

Photo 7 - No Available replacement, retrofit required

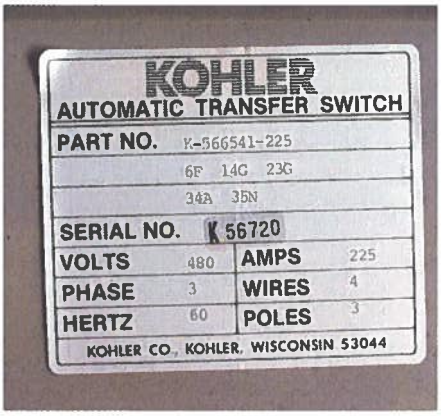

Photo 8

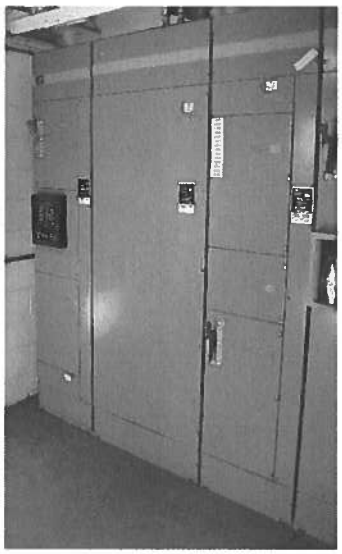

Photo 9

Photo 10

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2804 S. Del Prado Blvd.
Suite 101
Cape Coral, FL 33904
(239) 257-1780 (O)
(239) 257-1806 (F)

5420 Martindale Rd.
Shawnee, KS 66218
(913) 441-1636 (O)
(913) 745-5700 (F)

www.blotengineering.com

June 11, 2020

City of Sebring
Attn: Bob Hoffman
368 Commerce Ave.
Sebring, FL 33870

RE: Sebring Airport Generator Assessment Report
100 E. Boeing Ave., Sebring, FL 33870
CDBG-MIT Grant Engineering

Mr. Hoffman:

Blot Engineering Inc. (BEI) appreciates the opportunity to provide this Generator Assessment report to the City of Sebring (CITY) for the above project. BEI's scope of work included performing a visual inspection of the generator and transfer switch equipment; and to provide an assessment as to the condition of the system. Load capacity calculations, load ratings, and/or detailed engineering and specifications for any needed repairs are outside the current scope BEI's services.

An on-site inspection was performed on 6/02/20.

This report will outline the findings of our Generator Assessment services along with any associated recommendations for corrective measures. The comments listed below from the investigation were derived from combinations of field observations and standard industry practices.

PROJECT DESCRIPTION

Sebring Airport Water Production facility is considered a critical facility for the City of Sebring in providing water to the fire protection system (hydrants) and domestic water to residents of Sebring. The CITY would like to have an independent evaluation of the backup power supply system, and to identify any areas where the system could be hardened in order to mitigate emergency-related challenges and allow this critical facility to remain fully functional in the event of a power failure.

GENERATOR ASSESSMENT

Please reference the attached assessment from Spelman Engineering for details and condition of the existing generator system.

HARDENING RECOMMENDATIONS

Considering the overall age and condition, this generator has reached the end of its service life. With limited parts availability, the resiliency of this backup power supply is in question should extensive maintenance or repairs be needed. It is proposed to mitigate this risk by replacing the existing generator with a proposed Kohler Model 350REOZJ, (350kW) with 4M4019 alternator in a Hurricane rated, Weather and Sound Attenuating Aluminum enclosure with an 1161 gallon subbase fuel tank, and a 1,000A, 3-pole, 4-wire ATS with a retrofit switch and controller.

CONCLUSIONS

In order to provide resiliency for the backup power supply at this critical facility, both the generator and ATS are recommended to be replaced. Blot Engineering recommends that any modifications to the facility's backup power supply system be designed and engineered by a Licensed Florida Professional Engineer.

Blot Engineering Inc. has exercised reasonable skill, care, and diligence in the performance of its services and has carried out its responsibilities in accordance with customarily accepted professional engineering practices in Engineer's community. No warranty, expressed or implied, is included with these Assessment services or in any opinion produced by this report.

This report concludes our Generator Assessment services for the above site location. Should you have questions regarding the above, please feel free to contact me at 239-257-1780.

Sincerely,

Digitally signed by
Edward M Blot
Date: 2020.06.11
11:15:29 -04'00'

Edward M. Blot, P.E.
Blot Engineering, Inc.

Spelman Engineering, Inc.
6296 Corporation Court, Building A Suite 201, Fort Myers, FL 3391
Mailing Address: PO Box 3519, North Fort Myers, FL 33918
239-770-2930 cspelman@spelmanengineering.com
Certificate of Auth.: 26955 ~ Florida License: 34925
www.spelmanengineering.com

Sebring Airport Water Production Site, 100 Boeing Avenue, Sebring, Fl 33870, located in Highlands County. The FEMA flood map 12055C119C located in Zone X. This is a 'critical facility' providing water to fire protection system (hydrants) and domestic water to residents of the City of Sebring.
We observed the existing Kohler Automatic Transfer Switch, 1,000A, 3-pole, 4-wire mounting inside the Motor Control Center and we propose a retrofit for this transfer switch as the existing enclosure cannot be replaced without great cost.
This generator has approximately 1,227 running hours (Photo 1) and was manufactured (per the serial number 358270) in April,1993, this 27-year old generator has a 2-stroke engine of which replacement components that are no longer available. The subbase fuel tank is absent of secondary venting.
The existing generator is a Kohler 350ROZD71, 350kW, 480Y/277V, 3Ø, generator, (photo 6) and located on a concrete pad at grade and protected by a chain link fence. The Generator has a steel enclosure, recently painted, interior photos show the overall condition (photo 2,3, 4)

The funding will be used to replace the existing generator with a proposed Kohler Model 350REOZJ, (350kW) with 4M4019 alternator in a Hurricane rated, Weather and Sound Attenuating Aluminum enclosure with a 1161 gallon subbase fuel tank and the 1,000A, 3-pole, 4-wire ATS with a retrofit switch and controller.

Photo 1

Photo 2

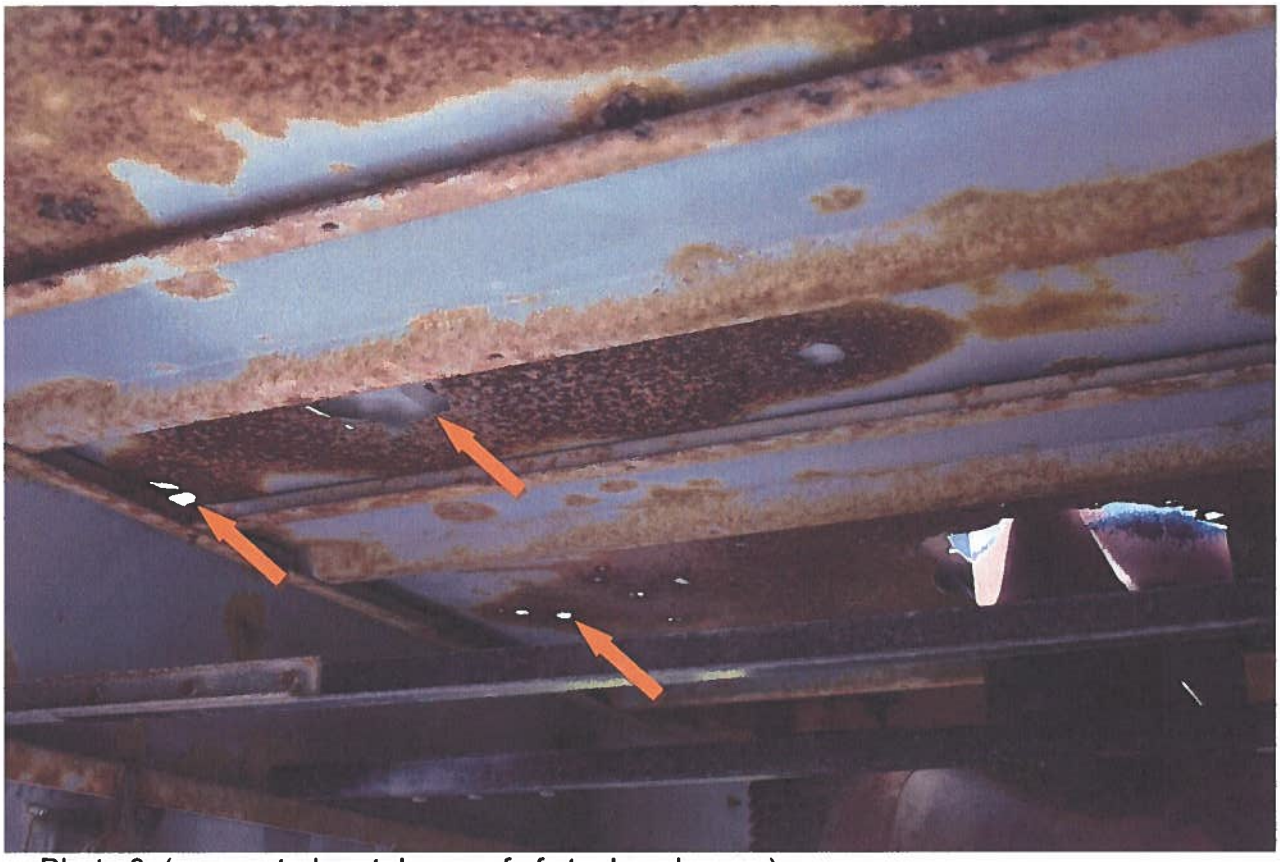

Photo 3 (corrogated metal on roof of steel enclosure)

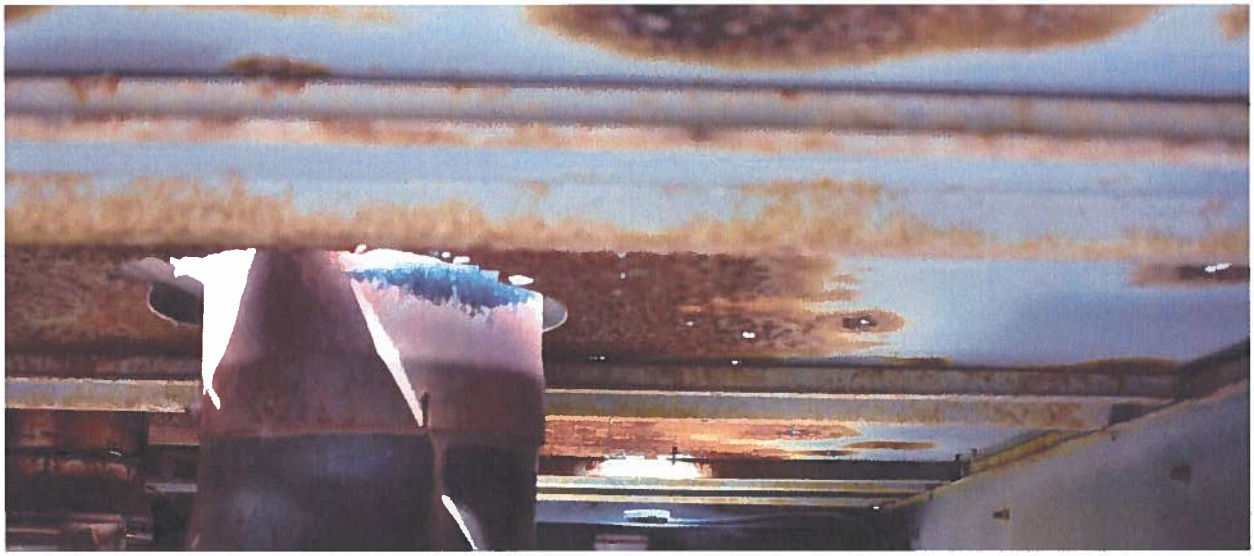

Photo 4 (top of rusted enclosure riddled with holes))

Photo 5 (corrogated metal screwed to top of generator enclosure)

Photo 6

Photo 7 (1,000A ATS)

Photo 8 (Existing 1,000 Ampere Transfer Switch in custom cabinet)

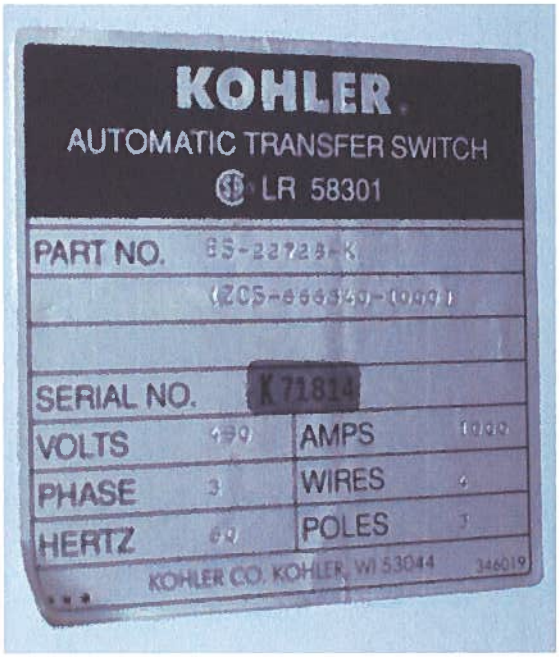

Photo 9 (ATS Nameplate)

Photo 10 (ATS Interior)

Photo 11 (1,000 Automatic Transfer Switch on 4" raised housekeeping pad)

PROJECT DESCRIPTION

City of Sebring
Water Distribution System Upgrades
Highland Homes Service Area

Purpose, Location, and Description of Proposed Activity:

The City of Sebring, FL is seeking funding to complete fire protection resiliency, water quality, and water conservation infrastructure improvements for its potable water supply system serving the Highland Homes Service Area that will include the replacement of the existing water lines in the following streets:

- Wightman Avenue between the northern end of the road and Youth Care Lane on the south
- Melady Avenue between Kenilworth Blvd on the north and Youth Care Lane on the south
- Colmar Avenue between Kenilworth Blvd on the north and Youth Care Lane on the south
- Las Vegas Blvd. between Kenilworth Blvd on the north and Youth Care Lane on the south
- Penny Avenue between the north end of the road and the southern end of the road
- Queen Palm Avenue between the north end of the road and the southern end of the road
- Beverly Avenue between Kenilworth Blvd on the north and end of the road on the south
- Pearl Street between Emerald Avenue on the east and opal Avenue on the west
- Opal avenue between Pearl Street on the north and the end of Pearl street on the south
- Jade Avenue between pearl Street on the north and Jasper Street on the south
- Emerald Avenue between Pearl Street on the north and Kenilworth Blvd. on the south
- Topaz Street between Opal Avenue on the west and the end of Topaz Street on the east
- Denise Avenue between Kenilworth Blvd on both ends of the street
- Industrial Way between Alpha Road east on the north and Kenilworth Blvd. on the south
- Beverly Avenue between Kenilworth Blvd. on the north and the end of Beverly Avenue on the south
- Rainbow Avenue between Kenilworth Blvd. on the north and Youth Care Lane on the south
- All of Greenway Drive
- Howard Street between Orange Blossom Avenue on the east and Rainbow Avenue on the west
- Minerva Street between Howard Street and Roseland Avenue
- Steiner Avenue between Orange Blossom Avenue on the east and Greenway Drive on the west

- Orange Blossom Trail between Kenilworth Blvd. on the north and Peters Road on the south
- Palm Blvd. between Kenilworth Blvd. on the north and Steiner avenue on the south
- 1st Street between Orange Blossom avenue on the east and Palm Blvd. on the west
- 1st Street between Orange Blossom avenue on the east and Palm Blvd. on the west
- 2nd Street between Orange Blossom avenue on the east and Palm Blvd. on the west
- 3rd Street between Orange Blossom avenue on the east and Palm Blvd. on the west
- 4th Street between Orange Blossom avenue on the east and Palm Blvd. on the west
- 6th Street between Orange Blossom avenue on the east and Palm Blvd. on the west
- 6th Street between Orange Blossom avenue on the east and Palm Blvd. on the west
- 7th Street between Orange Blossom avenue on the east and Palm Blvd. on the west

With the wide geographical area served by the City providing adequate level of service for fire protection has been a historical challenge for the City of Sebring. Meeting desired fire protection levels of service is also challenged due to lack of hydraulic capacity in City water lines in multiple areas Including the Highland Homes Service Area. The need for water distribution system improvements has been identified by various evaluations. However, limited available funding has slowed progress on resolving this deficiency.

The purpose of this project is to mitigate the multiple fire risks in the City's Highland Homes Water Service Area through improved water system infrastructure to increase community resilience. Project implementation will allow the City to be able to provide fire protection service to its residents living within the Highland Homes Service Area in compliance with national AWWA guidelines and recommended industry standards and comply with TTHM maximum levels with reduced or possibly eliminated water line flushing. The replacement of seventy (70) year old and undersized **cast iron** water lines in the Highland Homes Water Service Area will provide better fire protection for residents and customers within the Service Area. The project will reduce line flushing, which will reduce wasted water and reduce water production costs. This project will supplement ongoing efforts to provide back-up reliability to meet minimum standards related to fire protection service, which is consistent with the City's comprehensive plan goals.

The project will include the following water line improvements:

- The replacement of 59,080 linear feet of existing seventy (70) year old cast iron water lines. Including fire hydrants, cut off valves, and water services

The size of the replacement water lines will be determined during design, but 8-inch diameter has been assumed for budgetary purposes at this stage.

SEBRING HIGHLANDS HOMES
CAST IRON DRINKING WATER MAIN

SEBRING HIGHLANDS HOMES
CAST IRON DRINKING WATER MAIN

North Sebring Sanitary Sewer Service Area


Legend
1st St
2nd St
3rd St
4th St
5th St
6th St
7th St
Orange Blossom Ave
Sunkist Ave
Warfield Pl
Greenway Dr
Munster St
Beverly Ave
Rainbow Ave
Jade Ave
Opal Ave
17
Las Villas Blvd
Colmar Ave
Melady Ave
Wightman Ave
Weigle Ave
Thurston Ave
Penny Ave
Marlow Ave
Cornelia Ave
Prosper Ave
Hope Cir
Cody Way
Youth Care Ln
Zim Rd
Production Rd
Persimmon Ave
S Highlands Ave
Lake
South Sebring Sewer Service Area