ARTIBUS DESIGN
ENGINEERING AND PLANNING

Structural Engineering Services
Due Diligence Period Building Assessment
KW Citizen Building

Property Address:
3420 Northside Dr,
Key West, FL 33040

AD Job#: 1812-04
City of Key West P.O.: 088365

Artibus Design
December 2018

Digitally signed by Serge Mashtakov P.E. 71480 State of Florida
Date: 2018.12.17 15:41:06 -05'00'

Serge Mashtakov, PE, FL License No. 71480

Date

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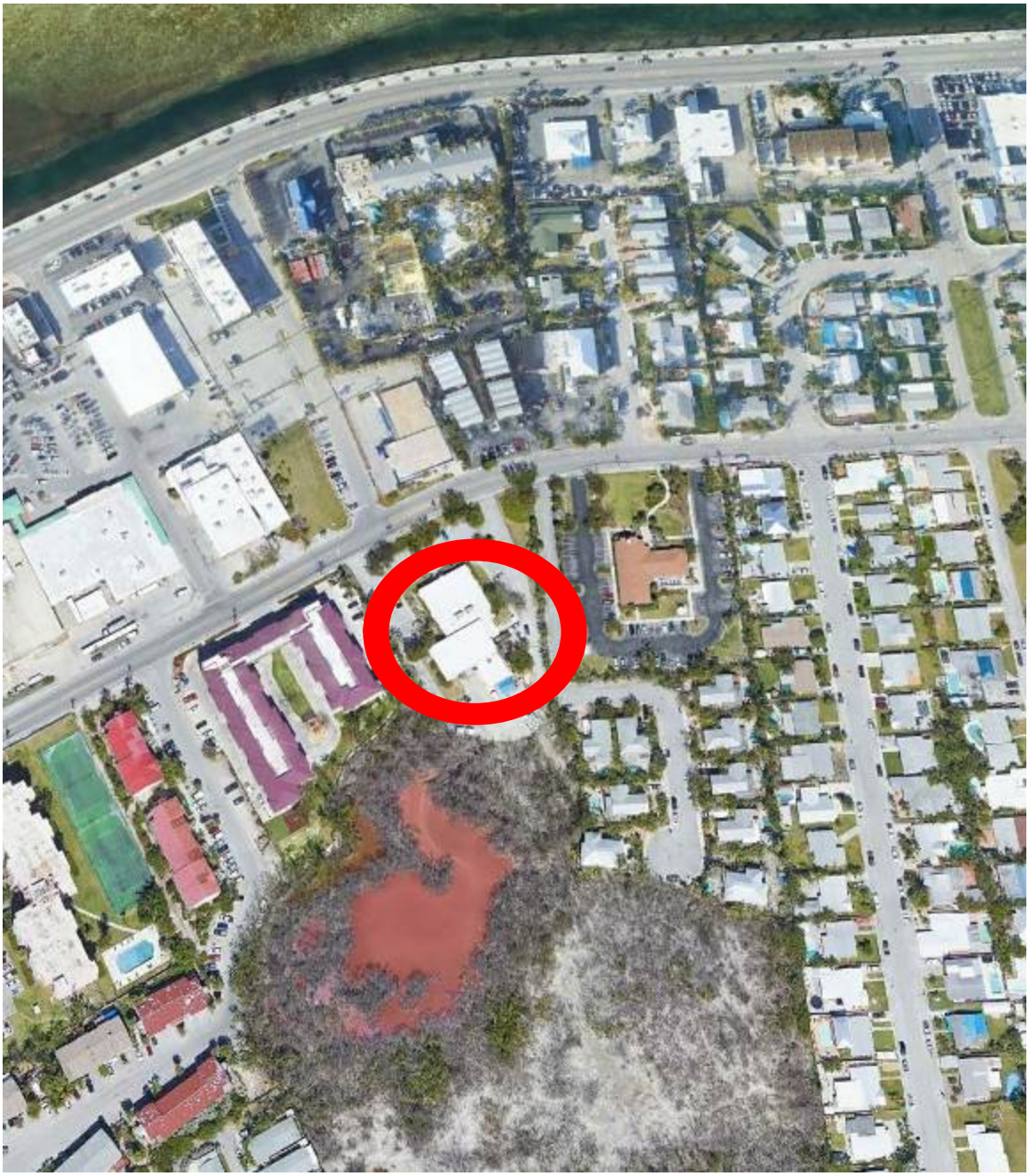

Figure 1. Site Map

Introduction

Existing building is one-story slab on grade elevated above street level +/-4ft with Concrete Masonry Unit (CMU) and reinforced concrete tie-beam-column wall system, steel bar joist and galvanized corrugated steel deck roof system. Building floor plan and volume is divided into three sections/volumes.

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Front section houses newspaper offices with central open floor area and cubicles and private offices along east and west walls. Front section is approximately 6,355 square feet (sq.ft) and included two bathrooms.

Two rear sections house printing and sorting equipment, storage, loading etc. Approximate floor area of the rear parts is 5,376 sq.ft

Building was constructed in 1988 (according to Property Appraisers Offices website) with multiple miscellaneous improvements as recorded in attached list of permits – Appendix "A"

This report is based on the information gathered during the site inspection by Serge Mashtakov P.E. on December 7, 2018.

Inspection Procedure

Structure was visually inspected from inside and outside including roof. Only exposed elements were inspected. Non-accessible/observable subgrade conditions and any covered elements were not inspected.

Background and Findings

Part 1 – Roofing

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Figure 2. Building Volume shape diagram.
The roofing membrane over the front lower part of the building (housing offices) underwent replacement in 2018 based on review of permit # 2018-00001022 issued by the City of Key West building department. Membrane is Thermoplastic Polyolefin (TPO) material.

Figure 3. View over new roofing membrane vinyl (TPO) over tapered insulation. Roofing surface looks good, small imperfections reflect uneven nature of the underlaying insulation capping sheet. The roofing is likely to be under current construction warranty and manufacturer material warranty. Owner should be contacted directly to transfer all warranties as part of the closing procedures if the City decides to proceed with the purchase.

Figure 4. Same new roofing with new aluminum flashing and roof access hatch connected to the interior. Hatch is heavy duty aluminum (by "Bilco") with hydraulic assist and waterproofing gasket similar to current hurricane rated designs in good functional condition.

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Figure 5. Same new roofing with tree branches overhanging and tree debris collecting along the short parapet walls. All trees around the building should be professionally pruned to prevent damage to the roofing and structure cladding.

Middle and rear sections of the roof (upper roof and rear low roof) over printing, sorting and storage areas are of TPO style membrane installed over tapered insulation. Roofing appears to have been installed in 2005 or 2006 based on review of permits (see permit status list). Multiple patch repairs are evident across the membrane. A liquid applied coating system was observed applied to the membrane.

Figure 6. Aging membrane surface with adhesion imperfections, small patches and liquid applied coating.

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Figure 7. Low rear roof east side. Tree leaves and branches are accumulating along the short parapet wall. (See comments to figure 5).

Figure 8. Membrane termination strip attached to the parapet walls and cracking sealant. No protective flushing is installed over the termination strip. Failure of the sealant will likely result in water intrusion into building envelope.

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Figure 9. Small tear puncture of the roofing membrane was found in one location. Requires a small local patch.

Figure 10. Pealing up edge of the membrane at the gutter between two roof levels. Requires maintenance.

Figure 11. Tree leaves and branches in the rear gutter, requires maintenance, tree pruning and perhaps leaf guard for the gutter system.

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Part 2 – Walls, roof framing and Openings (building shell).

All exterior and interior bearing walls are Concrete Masonry Unit (CMU, also known as CBS) system confined in cast-in-place concrete tie-columns and tie-beams consistent with current construction technique. The condition of observed CMU wall surfaces is good. Indications concrete spalling was not observed. All exterior walls and some interior walls are insulated from the exterior with Styrofoam system of various thickness (1" to 2"). Styrofoam covered with stucco over synthetic mesh also serves as a decorative elements of the façades. Small cosmetic damage to the exterior finishes are discovered in various locations but are very limited in scope and area.

Figure12. CMU wall – interior of storage and loading area - with visible tie-beam and tie-column.

Figure 13. Exterior wall with small damage to the corner and surface (likely hurricane debris damage). Similar small damage in other locations. Cosmetic repairs are needed.

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Roof framing is a steel bar joist system with corrugated galvanized steel deck attached to the top chord. No structural defects were discovered in the available for inspection locations. Roof framing and roof deck condition can be considered as good.

Figure 14. Exposed steel bar joists system exposed to the interior in the rear part of the building. In front offices the roof deck and roof joists are concealed by the finishes and were not inspected, but likely to be same or very similar shape.

Figure 15. Same as above.

Exterior openings in the front part of the building have aluminum frame insulated glass fenestration system protected with accordion style hurricane shutters. Wind and door glazing is non-impact rated. Overall fenestration system (windows and doors) are in good condition and require only small maintenance and repairs. Current Opening protection will not qualify for full hurricane mitigation credits which may be available through current wind insurance policies.

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Figure 16. Typical window opening with removable fabric awning and accordion shutters in closed position.

Figure 17. Same with shutters in open position.

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Figure 18. Broken outer pane of a double glass fenestration system in one location. Replacement of the glass is needed. Please note that some windows have black-out coating for privacy.

Figure 19. Front Entry Doors and windows.

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Figure 20. Rear loading dock with galvanized steel roll-up doors.

Figure 21. Signs of water intrusion – visible damage to the drywall trim of the window opening on the interior (likely prior new roofing installation).

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Figure 22. Same as Figure 21 on the interior.

Figure 23. Water damage to the drywall ceiling in the front section of the building in the bathroom. (likely prior new roofing installation). Please note that all locations were dry during the inspections – however no recent significant rain events.

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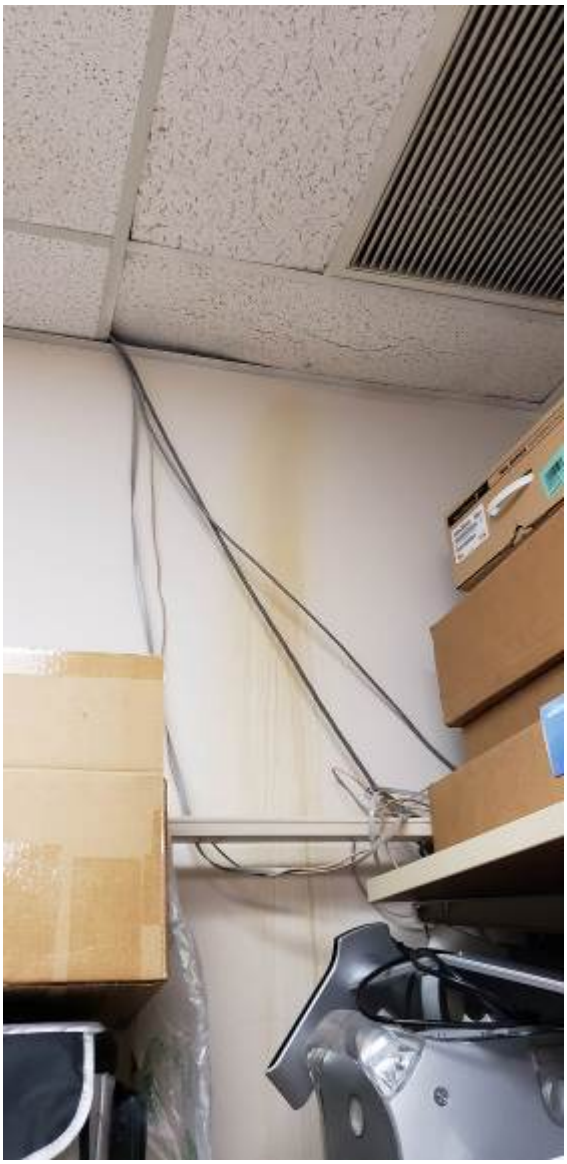

Figure 24. Water damage on the wall surface, similar conditions in various limited locations on walls in the front section of the building (offices). Again, all stains are likely to be prior recent re-roofing project and damages are limited to interior finishes.

All interior finishes are in acceptable and serviceable condition and can be repurposed for various office or light commercial applications.

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Part 3 – Mechanical Systems (HVAC).

Air-conditioning system of the building consist of combination of rooftop package units for different zones and mini-split systems for specific location that require additional cooling separate from main areas.

Figures 25&26. Rooftop package unit servicing rear end of the building. Unit manufactured and installed in 2016. Installation is adequate and unit equipment is likely to still be under manufacturer warranty.

RHEEM SALES COMPANY,
Model# RACA13060ACT000AA is a commercial grade 5 Ton, 13 SEER, 3 Phase.

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Figures 27&28. Rooftop package unit servicing front of the building.
Trane Voyager Model# TSD300F3R0A030, Date of Manufacturing 1-14.
25 Tons Standard Efficiency, 208-230/60/3 phase.

Inspected unit appears to be in generally adequate condition with exception of few maintenance issues (refer to Figures 29-31).

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Figure 29. Dirty fresh air intake filters are visible through the otherwise unprotected opening. Requires maintenance and coil cleaning.

Figures 30&31. Disconnect enclosure box cover is corroded and conduit protecting wiring from the rooftop J-Box are damaged and require replacement.

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Figures 32&33. Minisplit unit servicing IT Server room (East Side of the building). Line insulation excessive sweating and waterlogging. The unit requires maintenance, all lines insulation needs to be replaced, coils cleaned, and refrigerant levels checked.

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Figure 34. Two more similar mini-split units servicing currently unused space in the front part of the building (likely were used for additional cooling of printing equipment). In good condition.

Part 4 – Electrical Equipment.

Building is supplied with 3-phase underground service feeders from North Side Drive to the onsite transformer and equipped with emergency back-up diesel fuel generator located on the West side of the building.

Figure 35. Concrete pad with belly-tank generator and transformer. Transfer switch and disconnect on the building wall behind.

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Figure 36. 3-phase 1200 AMP main distribution panel in good condition. Missing protective cover and proper labeling for all disconnects.

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Figures 37&38. Multiple load centers are installed in various locations inside of the building with local brokers for lights, receptacles and various printing equipment. The condition of the electrical systems is good and serviceable.
Few items require service or replacement (refer to Figure 39)..

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Figure 39. Example of the damaged disconnect enclosure and conduit (in the way of forklift traffic) needs to be moved, replaced or abandoned. The equipment connected may not be in service.

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Part 5. Plumbing components.

The building is connected to municipal water supply system. Most of the piping is inaccessible for direct inspection but is likely to be adequate due to relatively recent construction. Plumbing fixtures are functional but aged and will require maintenance or replacement.

Figure 40&41. Hot water tank. Functional but will require replacement due to corrosion of the outer shell.

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Figure42. Plumbing fixtures and finishes. Adequate but require maintenance and improvements to finishes.

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Conclusions and Recommendations

In my professional opinion overall condition of the building is good. Building is in serviceable condition with sound building shell components with long useful life expectancy. Mechanical, electrical and plumbing systems are adequate and with proper maintenance can be maintained operational long term.

Power supply to the structure is adequate for almost any light commercial use and is likely to exceed any demands planned by the City.

Open floor plan of the structure should allow flexible use or repurposing of the space for various needs. Slab on grade floors will be able to accept any typical useful live loads (office, light storage, maintenance shop etc.).

List or recommendations:

- Two roof surfaces covering rear portion of the building with total area of 5,376 sq.ft are approaching their useful lifespan limit and shall be replaced within next 3 to 5 years. The replacement efforts shall be coordinated with any mechanical work to be done on the roof in case of change of occupancy use for the spaces below (if any) to prevent damage to newly installed roofing membranes. Please see Appendix "B" for engineer's opinion of probable cost.
- Mechanical components shall be serviced as described in the report.
- Glazing in one broken window shall be replaced.
- Corroded water heater shall be replaced.
- Miscellaneous damage to the exterior insulation and finishes shall be repaired.
- Miscellaneous damaged electrical components shall be repaired or removed depending on the intended new use of spaces.

Sincerely,
Artibus Design LLC
Serge Mashtakov, P.E.
President

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Appendix "A"
List of permit records for the property
(per City of Key West building department website)

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Permit Number	Permit Type	Permit Sub Type	Permit Status	RE Number	Street Address
1997-00000247	MECHANICAL ONLY		FINALED	00065820-000100	3420 NORTHSIDE DR
1998-00000944	ELECTRIC ONLY		FINALED	00065820-000100	3420 NORTHSIDE DR
2003-00000615	MECHANICAL ONLY		FINALED	00065820-000100	3420 NORTHSIDE DR
2004-00001640	AWNINGS AND REMOVABLE SHELTERS		PERMIT PRINTED	00065820-000100	3420 NORTHSIDE DR
2004-00002059	RENOVATION, CONVERSION: COMMER...		PERMIT PRINTED	00065820-000100	3420 NORTHSIDE DR
2004-00002589	ELECTRIC ONLY		PERMIT PRINTED	00065820-000100	3420 NORTHSIDE DR
2005-00003087	ELECTRIC ONLY		PERMIT PRINTED	00065820-000100	3420 NORTHSIDE DR
2005-00003206	MECHANICAL ONLY		FINALED	00065820-000100	3420 NORTHSIDE DR
2005-00003594	ROOFING		PERMIT PRINTED	00065820-000100	3420 NORTHSIDE DR
2006-00004198	MECHANICAL ONLY		FINALED	00065820-000100	3420 NORTHSIDE DR
2006-00004925	ROOFING		FINALED	00065820-000100	3420 NORTHSIDE DR
2006-00005478	RENOVATION, CONVERSION: COMMER...		PERMIT PRINTED	00065820-000100	3420 NORTHSIDE DR
2007-00000494	MECHANICAL ONLY		FINALED	00065820-000100	3420 NORTHSIDE DR
2012-00001691	MECHANICAL ONLY		FINALED	00065820-000100	3420 NORTHSIDE DR
2013-00002044	MECHANICAL ONLY		FINALED	00065820-000100	3420 NORTHSIDE DR
2014-00001076	RENOVATION, CONVERSION: COMMER...		FINALED	00065820-000100	3420 NORTHSIDE DR
2014-00001496	MECHANICAL ONLY		FINALED	00065820-000100	3420 NORTHSIDE DR
2014-00001964	AWNINGS AND REMOVABLE SHELTERS		FINALED	00065820-000100	3420 NORTHSIDE DR
2014-00002046	SIGN APPLICATION		FINALED	00065820-000100	3420 NORTHSIDE DR
2015-00004921	MECHANICAL ONLY		FINALED	00065820-000100	3420 NORTHSIDE DR
2016-00003158	MECHANICAL ONLY		PERMIT ISSUED	00065820-000100	3420 NORTHSIDE DR
2018-00001022	ROOFING	NON HARC	PERMIT ISSUED	00065820-000100	3420 NORTHSIDE DR
2018-00002559	MECHANICAL HVAC	RESIDENTIAL	PERMIT ISSUED	00065820-000100	3420 NORTHSIDE DR

RECORDID
CONV:1808241524520079188
CONV:1808241524520094525
CONV:1808241524520074296
CONV:1808241524520023079
CONV:1808241524520073987
CONV:1808241524520072665
CONV:1808241524520015820
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CONV:1808241524520115181
CONV:1808241524520024864
CONV:1808241524520090633

Appendix "B"
Opinion of Probable Cost

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ARTIBUS DESIGN
ENGINEERING AND PLANNING

3420 Northside Dr - KW Citizen, Rear Portion Re-roofing and Miscellaneous Items
Opinion of Probable Cost

Item No	Work Description	Estimated Unit Cost	Quantity	Unit	Total
1	Mobilization & Demobilization (+/- 5%)	$7,100.00	1	EA	$7,100.00
2	Repairs to the tapered insulation (up to 10%)	$25.00	538	SQ.FT.	$13,450.00
3	New roofing system over existing tapered insulation	$20.00	5376	SQ.FT.	$107,520.00
4	New terminations around roof perimeter	$28.00	400	LF	$11,200.00
5	Service of HVAC equipment	$3,500.00	1	EA	$3,500.00
6	Replacement of broken insulated glass panel	$1,800.00	1	EA	$1,800.00
7	New High Efficiency Tank Water Heater 65gal. Installed	$2,900.00	1	EA	$2,900.00
8	Miscellaneous Electrical Repairs	$3,000.00	1	EA	$3,000.00

$150,470.00

Contingency and unforeseen items	15%	$22,570.50
Engineering and Project Administration	5%	$7,523.50

TOTAL ESTIMATE **$180,564.00**