

This meeting is being held via telephonic attendance

**AGENDA
FINANCE COMMITTEE
Village of Hoffman Estates
April 26, 2021**

Immediately following Public Health & Safety

Members:	Gary Pilafas, Chairperson	Karen Mills, Trustee
	Anna Newell, Vice Chairperson	Gary Stanton, Trustee
	Michael Gaeta, Trustee	Karen Arnet, Trustee
		William McLeod, Mayor

I. Roll Call

II. Approval of Minutes – March 22, 2021

NEW BUSINESS

1. Request authorization to award a contract for new lighting controls at the NOW Arena to Payne-Sparkman of New Albany, IN in an amount not to exceed \$87,907.
2. Request authorization to award a contract to upgrade the NOW Arena ventilation system to Advantage Mechanical, McHenry, IL (low bid), in an amount not to exceed \$90,943.
3. Request authorization to waive bidding and authorize the purchase of two next generation Fortinet Fortigate 600E Security Appliances, 24 Fortinet FortiAP U231F indoor wireless access points, 12 Fortinet FortiAP 431F indoor wireless access points and 6 Fortinet FortiAP 432F outdoor access points, from CDW-G, Vernon Hills, Illinois in an amount not to exceed \$66,574.56.
4. Request authorization to renew the Central Square Annual Subscription Agreement between Superior, LLC, a Central Square Technology Company, a Delaware Limited Liability Company with its principal place of business in Lake Mary, FL (“CentralSquare”) and the Village of Hoffman Estates, IL (Customer) for a term of one year at a subscription cost of \$172,016.56.
5. Request authorization of an Employee Leasing Agreement with GovTempsUSA, LLC, for Civil Engineer staff services as a rate of \$77 per hour.

REPORTS (INFORMATION ONLY)

1. Finance Department Monthly Report.
2. Information System Department Monthly Report.
3. NOW Arena Monthly Report.

III. President’s Report

IV. Other

V. Items in Review

VI. Adjournment

Further details and information can be found in the agenda packet attached hereto and incorporated herein and can also be viewed online at www.hoffmanestates.org and/or in person in the Village Clerk’s office.

The Village of Hoffman Estates complies with the Americans with Disabilities Act (ADA). For accessibility assistance, call the ADA Coordinator at 847/882-9100.

FINANCE COMMITTEE MEETING MINUTES

March 22, 2021

I. Roll call

Members in Attendance:

Anna Newell, Vice Chairperson
Michael Gaeta, Trustee
Gary Stanton, Trustee
Karen Mills, Trustee
Karen Arnet, Trustee
William McLeod, Mayor

Members Telephonic Attendance: Gary Pilafas, Chair

Management Team
Members in Attendance

Eric Palm, Village Manager
Rachel Musiala, Finance Director
Dan O'Malley, Deputy Village Manager
Kathryn Cawley, Acting Police Chief
Arthur Janura, Corporation Counsel
Patti Cross, Asst. Corporation Counsel
Suzanne Ostrovsky, Asst. to Village Mgr.
Monica Saavedra, Director of HHS
Joe Nebel, Director of Public Works
Fred Besenhoffer, Director of IS
Paul Bilodeau, Acting Fire Chief
Ric Signorella, CATV Coordinator

Management Team Members
Via Telephonic Attendance: Alan Wenderski, Village Engineer
Ben Gibbs, NOW Arena
Sarah Marcucci / EMA Coordinator

The Finance Committee meeting was called to order at 7:15 p.m.

II. Approval of Minutes – February 22, 2021

Motion by Trustee Gaeta, seconded by Trustee Stanton, to approve the Finance Committee Meeting Minutes from February 22, 2021. Roll call vote taken. All ayes. Motion carried.

NEW BUSINESS

1. Request approval of an ordinance reserving the Village's volume cap.

An item summary sheet by Art Janura was presented to Committee.

Motion by Trustee Gaeta, seconded by Mayor McLeod, to approve an ordinance reserving the Village's volume cap. Roll call vote taken. All ayes. Motion carried.

- 2. Request authorization to waive bidding and authorize the purchase of 50 desktop computers from Dell EMC, Round Rock, TC, in an amount not to exceed. 37,206.00.**

An item summary sheet by Fred Besenoffer was presented to Committee.

Motion by Trustee Gaeta, seconded by Mayor McLeod, to authorize the purchase of 50 desktop computers from Dell EMC, Round Rock, TC, in an amount not to exceed. 37,206.00. Roll call vote taken. All ayes. Motion carried.

REPORTS ONLY

- 3. Finance Department Monthly Report**

The Finance Department Monthly Report was received and filed.

- 4. Information System Department Monthly Report**

The Information System Department Monthly Report was received and filed.

- 5. NOW Arena Monthly Report**

Mr. Gibbs provided an update on the Arena, Village Green, and COVID status. A grant will be submitted on April 8 to request COVID relief funds.

The NOW Arena Monthly Report was received and filed.

- III. President's Report**

- IV. Other**

- V. Items in Review**

- VI. Adjournment**

Motion by Trustee Arnet, seconded by Trustee Gaeta, to adjourn the meeting at 7:24 p.m. Roll call vote taken. All ayes. Motion carried.

Minutes submitted by:

Jennifer Djordjevic, Director of Operations &
Outreach / Office of the Mayor and Board

Date

**COMMITTEE AGENDA ITEM
VILLAGE OF HOFFMAN ESTATES**

SUBJECT: Request authorization to award a contract for new lighting controls at the NOW Arena to Payne-Sparkman of New Albany, IN in an amount not to exceed \$87,907

MEETING DATE: April 26, 2021

COMMITTEE: Finance

FROM: Mark Koplín, Owner's Representative-NOW Arena
Paul Petrenko, Superintendent of Facilities & Arena Maintenance
Ben Gibbs, General Manager-NOW Arena

REQUEST: Request authorization to award a contract for new lighting controls at the NOW Arena to Payne-Sparkman of New Albany, IN, in an amount not to exceed \$87,907.

BACKGROUND: The NOW Arena opened in 2006. The lighting control system was based on older technology when initially installed. As an example, the controls are operated with a desktop PC that runs on a Windows XP operating system. To provide backup capacity, the Arena searched and eventually acquired two backup PCs with the Windows XP operating system. To date, the lighting system has operated with minimal issues, but the Arena is now utilizing the last back-up PC.

Foreseeing that the lighting controls were at the "end of useful life", the 2021 CIP included \$105,000 from the Village's Capital Improvement Fund for replacement.

DISCUSSION: Using Spectra's resources at other venues, Arena staff created specifications and issued a Request For Proposal (RFP) in compliance with the Arena's purchasing policy. We received three proposals (Payne-Sparkman, Knight Sounds & Lighting, and Juganu) which staff evaluated. One company's proposal did not meet the requirements as they proposed to replace the controls, plus all the fixtures, at a much higher total cost. Of the other two, Payne-Sparkman's proposal (\$87,907) is significantly less than Knight's proposal (\$110,500).

DISCUSSION: (Cont'd)

Payne-Sparkman's proposal meets the specifications listed in the RFP. In addition to providing the BACnet controls as specified in the RFP, Payne-Sparkman's LiteTALK system will allow us to communicate wirelessly via an android or IOS app. The two controls systems operate concurrently, which is an addition that we have not had in the past, creating redundancy and avoiding a single point of failure. The system will run on low-voltage power, making a seamless transition to the existing network of lights. The system will give us the ability to control parking lots, concourses, and sport lights simultaneously from one interface.

Their reference checks came back strong and their controls have been installed in other Spectra buildings, including Addition Financial Arena (Orlando, FL), Budweiser Events Center (Loveland, CO), and Virginia State University (Petersburg, VA).

BUDGET IMPACT:

The 2021 CIP included \$105,000 from the Village's Capital Fund for this project. Payne-Sparkman's proposal is \$17,000 less than the budgeted amount. This savings would offset the cost of the HVAC system upgrade (as recommended in a separate Finance Committee item) and the amount from the General Fund Reserve.

RECOMMENDATION:

Request authorization to award a contract for new lighting controls at the NOW Arena to Payne-Sparkman of New Albany, IN in an amount not to exceed \$87,907.00.

Attachment

cc: Michael Logan (NOW Arena)

NOW Arena Lighting Controls Comparison

Company	Original Proposal	Second Proposal*	Total Project Cost	Ranking	Notes
Payne Sparkman Inc.	\$ 129,579.00	\$ 87,907.00	\$ 87,907.00	1	Low bid. Operating in other Spectra Venues. Proposal 1 had additional equipment not included in our RFP.
Knight Sound and Lighting Inc.	\$ 110,500.00	\$ 122,020.00	\$ 110,500.00	2	Existing equipment manufacturer. Proposal 2 is with added equipment first proposed in Payne Sparkman's 1st Proposal

*We asked Payne Sparkman and Knight Sound and Lighting to send us a second proposal. Payne Sparkman's original proposal contained additional equipment not referenced in the original RFP. To ensure we had accurate bids from both companies we asked Payne Sparkman to take the extra equipment out and Knight Sound and Lighting to add. This provided us with an apples to apples comparison of both companies.

COMMITTEE AGENDA ITEM VILLAGE OF HOFFMAN ESTATES

SUBJECT: Request authorization to award a contract to upgrade the NOW Arena ventilation system to Advantage Mechanical, McHenry, IL (low bid), in an amount not to exceed \$90,943

MEETING DATE: April 26, 2021

COMMITTEE: Finance Committee

FROM: Mark Koplin, Owner's Representative-NOW Arena
Ben Gibbs, NOW Arena General Manager
Paul Petrenko, Superintendent of Facilities & Arena Maintenance

REQUEST: Request authorization to award contract for NOW Arena ventilation upgrade to Advantage Mechanical, McHenry, IL (low bid), in an amount not to exceed 90,943.

BACKGROUND: At the Finance Committee last October, staff presented a request for authorization to engage a mechanical design firm to review and recommend improvements to the HVAC system at the NOW Arena, and then issue a bid request for the purchase and installation such equipment. The Committee directed staff to proceed with design of a more effective and safe exhaust system to accomplish two goals. First, increasing the volume and number exchanges per hour is critical to reopening the Arena to the public, per CDC guidelines. Many articles in professional publications written in the past year emphasize this new reality, that improving air flow is one of the best ways to make venues safer. Second, the existing HVAC system installed in 2006 is not very efficient at exhausting smoke and fumes from theatrical pyrotechnics or exhaust from Monster Trucks or Arenacross events. Typically, the haze will linger for a couple of hours. Improving exhaust and airflow will improve the experience for those attending these events.

Staff proposed to install three additional exhaust fans directly on the highest point of the Arena dome roof, to exhaust smoke, fumes and the trapped particulates above the catwalk, and remove the haze more quickly, but needed an expert to evaluate and substantiate this idea, and create the design and specs for a bid package.

DISCUSSION:

Staff enlisted the services of Jim Bess, a mechanical engineer from Building Engineering Systems, LLC. Upon his review of the existing system, he concurred with staff's original proposal, but enhanced the solution by adding features such as variable frequency drives (VFDs) for the fans, additional ductwork, and louvres. The enhanced solution and design will make the HVAC system more effective and efficient.

Using the mechanical engineer's recommendations and drawings, staff created the bid specifications and went out to bid on March 1. At the March 15, bid opening, the Village received six bids. Advantage Mechanical submitted the low bid and is recommended for this work. Advantage has performed many projects for the Village over the past few years. They are familiar with our Codes and permitting requirements, and have worked well with Village staff.

FINANCIAL IMPACT:

At the October 26, 2020, Finance Committee, staff estimated the cost to install the three fans proposed (20,000-25,000 CMF each) at approximately \$65,000, not including the consulting fee for the mechanical engineer at around 10% (\$6,500). The design fees actually came in lower (\$3,000). The lowest qualified bidder tendered \$90,943 for the work. The higher cost was largely due to the additional features recommended by the mechanical engineering consultant to enhance the HVAC system's efficiency and effectiveness.

As discussed last October, funds for this project were not included in the 2020 CIP or Budget, nor were they included in the 2021 Budget. The Village Board approved hiring the consultant and bidding the project, with the bids to be brought back to the Finance Committee for discussion and consideration.

Staff feels that this project is important as it will improve airflow which has been recommended by industry experts to combat the spread of airborne pathogens and provide a measure of safety when we reopen the venue. If the Committee decides to proceed with this project, funds could be allocated from the General Fund Reserve.

RECOMMENDATION:

Request authorization to award contract for NOW Arena HVAC system upgrade to Advantage Mechanical, LLC, McHenry, IL (low bid), in an amount not to exceed \$90,943.

Attachment

VILLAGE OF HOFFMAN ESTATES
DEPARTMENT OF PUBLIC WORKS
TABULATION OF BIDS FOR: NOW ARENA VENTILATION UPGRADE

Bid Opening Date: March 15, 2021
Time: 10:00 am
Attended by: Paul Petrenko

Firm:	Advantage Mechanical	Oak Brook Mechanical Services, Inc.	Progressive Mechanical Services	Delta Heating & Air Conditioning Inc.	Amber Mechanical Contractors, Inc.
Address:	766 Ridgeview Dr. McHenry, IL 60050	961 S. Route 83 Elmhurst, IL 60126	650 W. Grand, #306 Elmhurst, IL 60126	139 Crossen Ave. Elk Grove, IL 60007	11950 S. Central Ave. Alsip, IL 60803-3402
Phone:	815-363-7035	630-941-3555	630-441-8669	847-427-1040	708-597-9700
Fax:	815-363-7045	630-941-0294	630-442-8067	847-427-1075	708-597-5875
Email:	Mike@advantagemechanicalinc.com	Marks@omshvac.com	evillagomez@progmechanical.com	Angelo@deltah heating.com	Estimating@Ambermech.com
Contact:	Mike Sabatka	Mark Sullivan	Edgar Villagomez	Bill Kanetis	William J. Beukema, Jr.
Bid Deposit:	Cashier's Check	Cashier's Check	Cashier's Check	Cashier's Check	Cashier's Check
Amount of Deposit Received:	\$500	\$500	\$500	\$500	\$500
Bid Certification Form Notarized:	Yes	Yes	Yes	Yes	Yes
Substance Abuse Prevention Certificate:	Yes	Yes	Yes	Yes	Yes
References Provided:	Yes	Yes	Yes	Yes	Yes
Items	Total	Total	Total	Total	Total
Installation of 3 fans, ductwork, & VFD's as outlined	\$ 68,293.00	\$ 93,800.00	\$ 112,800.00	\$ 123,800.00	\$ 144,000.00
Electrical work as outlined	\$ 18,125.00	\$ 33,350.00	\$ 15,300.00	\$ 40,900.00	\$ 15,000.00
Proposed sum for BAS integration/control & testing as outlined		\$ 22,300.00	\$ 23,500.00	\$ 5,540.00	\$ 20,000.00
Proposed sum for Standalone/control & testing as outlined	\$ 4,525.00				
Materials Warranty Information	1 yr.	2 yrs.	3 yrs.	1 yr.	1 yr.
Contractor Labor Warranty	1 yr.	2 yrs.	2 yrs.	1 yr.	1 yr.
Approx. Number of Weeks for Work Start after Contract Award	10 wks.	6 wks.	5-6 wks.	4 wks.	Approx. 6 wks.
Total Bid Amount:	\$ 90,493.00	\$ 149,450.00	\$ 151,600.00	\$ 170,240.00	\$ 179,000.00

COMMITTEE AGENDA ITEM VILLAGE OF HOFFMAN ESTATES

SUBJECT: Request authorization to waive bidding and authorize the purchase of two next generation Fortinet Fortigate 600E Security Appliances, 24 Fortinet FortiAP U231F indoor wireless access points, 12 Fortinet FortiAP 431F indoor wireless access points and 6 Fortinet FortiAP 432F outdoor access points, from CDW-G, Vernon Hills Illinois in an amount not to exceed \$66,574.56.

MEETING DATE: April 26, 2021

COMMITTEE: Finance Committee

FROM: Fred Besenhoffer, Director of Information Systems

PURPOSE: The current hardware infrastructure ranges in age from 6 to 8 years and is encroaching on its serviceable life expectancy. This request is to replace the Village's internal wireless infrastructure.

DISCUSSION Both wireless and firewall technologies have seen significant technological advancements in recent years. With the introduction of WiFi 6 capable devices, integrated End Point Protection, integrated Intrusion Prevention, centralized or cloud managed solutions (as well as a host of other enhancements) these devices offer increased network security as well as an overall performance improvement over their predecessors.

Throughout 2020 I.S. staff searched for a suitable replacement for the current wireless infrastructure consisting of Cisco's Aeronet 2700 series access points and Cisco's 2500 series access controllers. Any solution would, amongst other things, need to meet our current technological needs, be scalable to meet future needs, centrally and easily manageable and economical.

Staff conducted reviews of several comparable products. After speaking with and reviewing products from a number of vendors we determined the products and services presented by Fortinet were the best overall solution to meet the needs in our environment.

Fortinet representatives suggested we go through an agreed upon reseller; (CDW-G), however we also obtained pricing quotes from a number of other vendors. The quote CDW-G provided was the lowest.

FINANCIAL IMPACT The \$66,574.56 total cost for this project is \$23,425.44 below the budgeted amount of \$90,000, the amount allocated to the IS Department to fund this project (470086254602).

RECOMMENDATION To waive bidding and authorize the purchase of two next generation Fortinet Fortigate 600E Security Appliances, 24 Fortinet FortiAP U231F indoor wireless access points, 12 Fortinet FortiAP 431F indoor wireless access points and 6 Fortinet FortiAP 432F outdoor access points, from CDW-G, Vernon Hills Illinois in an amount not to exceed \$66,574.56.

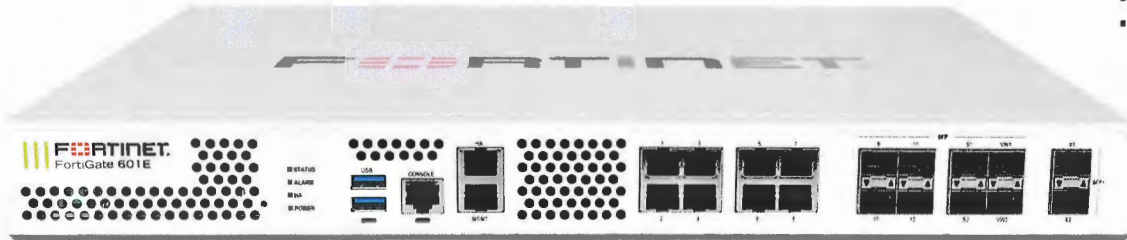
Item Description	QTY	CDW-G	Zones llc	SCW	SHI
Fortinet FortiGate 600E - security appliance with 3 years FortiCare 24X7	2	\$35,590.92	\$45,509.98	\$52,258.66	\$46,957.28
Fortinet FortiAP U231F - wireless access point	24	\$9,957.12	\$12,503.76	\$12,996.00	\$10,894.80
Fortinet FortiCare 24x7 Comprehensive Support extended service agreement FC-10-P231F-247-2-36	24	\$3,888.24	\$4,463.76	\$4,386.24	
Fortinet FortiAP 431F - wireless access point	12	\$6,571.80	\$7,715.88	\$7,997.52	\$8,084.52
Fortinet FortiCare 24x7 Comprehensive Support extended service agreement FC-10-F431F-247-02-36	12	\$2,425.08	\$2,747.88	\$2,699.16	
Fortinet FortiAP 432F - wireless access point	6	\$5,908.32	\$8,171.94	\$8,497.32	\$8,589.72
Fortinet FortiCare 24x7 Comprehensive Support extended service agreement FC-10-PF432-247-02-36	6	\$2,333.08	\$2,921.94	\$2,867.88	
TOTAL		\$66,674.56	\$84,035.14	\$91,702.78	\$74,526.32

DATA SHEET

FortiGate® 600E Series

FG-600E and FG-601E

Next Generation Firewall
Secure SD-WAN
Secure Web Gateway
IPS



The FortiGate 600E series provides an application-centric, scalable, and secure SD-WAN solution with Next Generation Firewall (NGFW) capabilities for mid-sized to large enterprises deployed at the campus or branch level. Protects against cyber threats with system-on-a-chip acceleration and industry-leading secure SD-WAN in a simple, affordable, and easy to deploy solution. Fortinet’s Security-Driven Networking approach provides tight integration of the network to the new generation of security.

Security

- Identifies thousands of applications inside network traffic for deep inspection and granular policy enforcement
- Protects against malware, exploits, and malicious websites in both encrypted and non-encrypted traffic
- Prevent and detect against known and unknown attacks using continuous threat intelligence from AI-powered FortiGuard Labs security services

Performance

- Delivers industry’s best threat protection performance and ultra-low latency using purpose-built security processor (SPU) technology
- Provides industry-leading performance and protection for SSL encrypted traffic

Certification

- Independently tested and validated for best-in-class security effectiveness and performance
- Received unparalleled third-party certifications from NSS Labs

Networking

- Delivers advanced networking capabilities that seamlessly integrate with advanced layer 7 security and virtual domains (VDMs) to offer extensive deployment flexibility, multi-tenancy and effective utilization of resources
- Delivers high-density, flexible combination of various high-speed interfaces to enable best TCO for customers for data center and WAN deployments

Management

- Includes a management console that is effective, simple to use, and provides comprehensive network automation and visibility
- Provides Zero Touch Integration with Fortinet’s Security Fabric’s Single Pane of Glass Management
- Predefined compliance checklist analyzes the deployment and highlights best practices to improve overall security posture

Security Fabric

- Enables Fortinet and Fabric-ready partners’ products to provide broader visibility, integrated end-to-end detection, threat intelligence sharing, and automated remediation

Firewall	IPS	NGFW	Threat Protection	Interfaces
36 Gbps	10 Gbps	9.5 Gbps	7 Gbps	Multiple GE RJ45, GE SFP, and 10 GE SFP+ Slots

DEPLOYMENT



Next Generation Firewall (NGFW)

- Reduce the complexity and maximize your ROI by integrating threat protection security capabilities into a single high-performance network security appliance, powered by Fortinet’s Security Processing Unit (SPU)
- Full visibility into users, devices, and applications across the entire attack surface and consistent security policy enforcement irrespective of asset location
- Protect against network exploitable vulnerabilities with industry-validated IPS that offers low latency and optimized network performance
- Automatically block threats on decrypted traffic using the industry’s highest SSL inspection performance, including the latest TLS 1.3 standard with mandated ciphers
- Proactively block newly discovered sophisticated attacks in real-time with AI-powered FortiGuard Labs and advanced threat protection services included in the Fortinet Security Fabric



Secure SD-WAN

- Consistent business application performance with accurate detection, dynamic WAN path steering on any best-performing WAN transport
- Accelerated multi-cloud access for faster SaaS adoption with cloud-on-ramp
- Self-healing networks with WAN edge high availability, sub-second traffic switchover-based and real-time bandwidth compute-based traffic steering
- Automated overlay tunnels provides encryption and abstracts physical hybrid WAN making it simple to manage.
- Simplified and intuitive workflow with SD-WAN orchestrator for management and zero touch deployment
- Enhanced analytics both real-time and historical provides visibility into network performance and identifies anomalies
- Strong security posture with next generation firewall and real-time threat protection



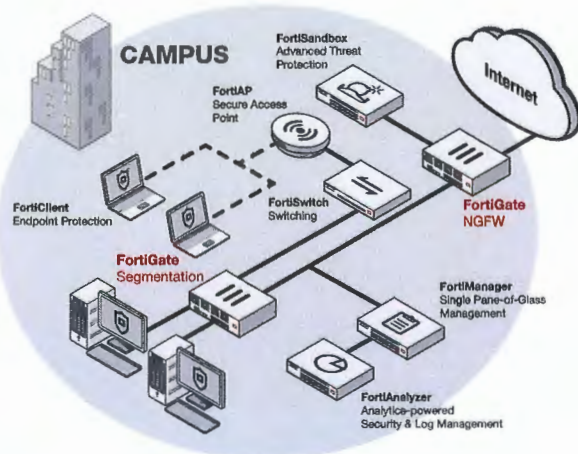
Secure Web Gateway (SWG)

- Secure web access from both internal and external risks, even for encrypted traffic at high performance
- Enhanced user experience with dynamic web and video caching
- Block and control web access based on user or user groups across URLs and domains
- Prevent data loss and discover user activity to known and unknown cloud applications
- Block DNS requests against malicious domains
- Multi-layered advanced protection against zero-day malware threats delivered over the web

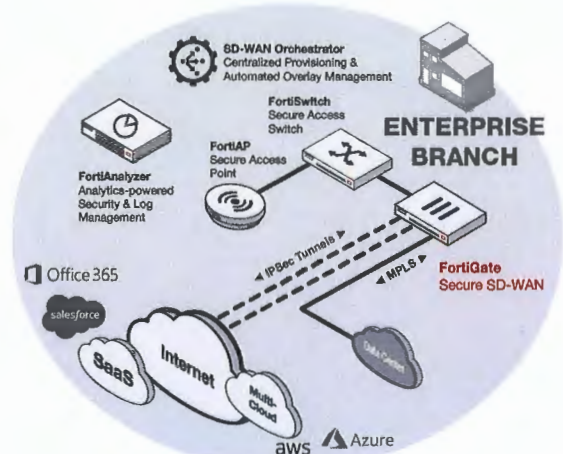


IPS

- Purpose-built security processors delivering industry validated IPS performance with high throughput and low latency
- Deploy virtual patches at the network level to protect against network exploitable vulnerabilities and optimize network protection time
- Deep packet inspection at wire speeds offers unparalleled threat visibility into network traffic including traffic encrypted with the latest TLS 1.3
- Proactively block newly discovered sophisticated attacks in real-time with advanced threat protection provided by the intelligence services of the Fortinet Security Fabric



Large Campus Network Deployment (NGFW)

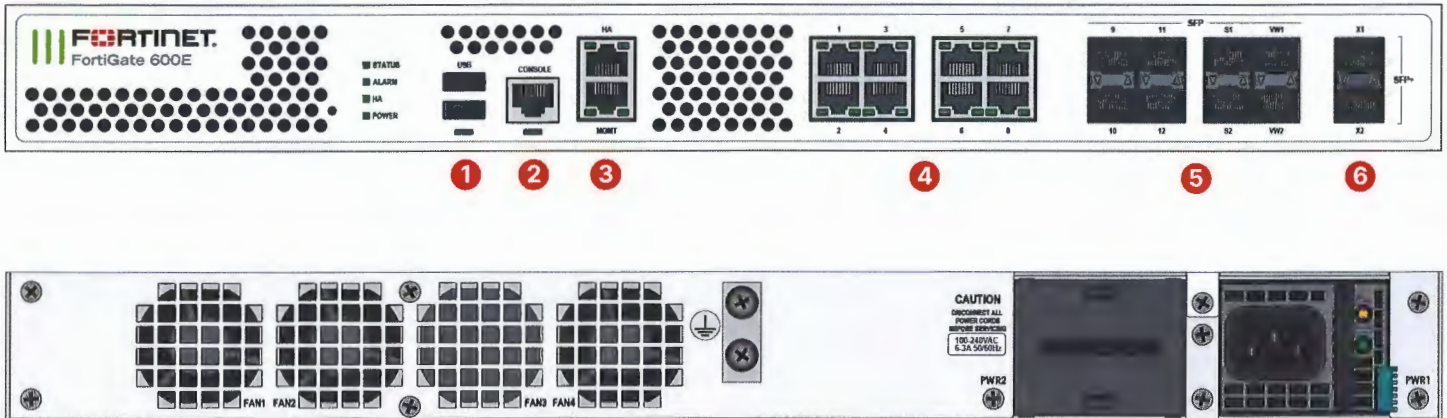


Enterprise Branch Deployment (Secure SD-WAN)



HARDWARE

FortiGate 600E/601E



Interfaces

1. 1x USB Port
2. 1x Console Port
3. 2x GE RJ45 MGMT/HA Ports
4. 8x GE RJ45 Ports
5. 8x GE SFP Slots
6. 2x 10 GE SFP+ Slots

Hardware Features



Powered by SPU



- Fortinet’s custom SPU processors deliver the power you need to detect malicious content at multi-Gigabit speeds
- Other security technologies cannot protect against today’s wide range of content- and connection-based threats because they rely on general-purpose CPUs, causing a dangerous performance gap
- SPU processors provide the performance needed to block emerging threats, meet rigorous third-party certifications, and ensure that your network security solution does not become a network bottleneck

Network Processor

Fortinet’s new, breakthrough SPU NP6 network processor works inline with FortiOS functions delivering:

- Superior firewall performance for IPv4/IPv6, SCTP and multicast traffic with ultra-low latency
- VPN, CAPWAP and IP tunnel acceleration
- Anomaly-based intrusion prevention, checksum offload, and packet defragmentation
- Traffic shaping and priority queuing

Content Processor

Fortinet’s ninth generation custom SPU CP9 content processor works outside of the direct flow of traffic and accelerates the inspection.



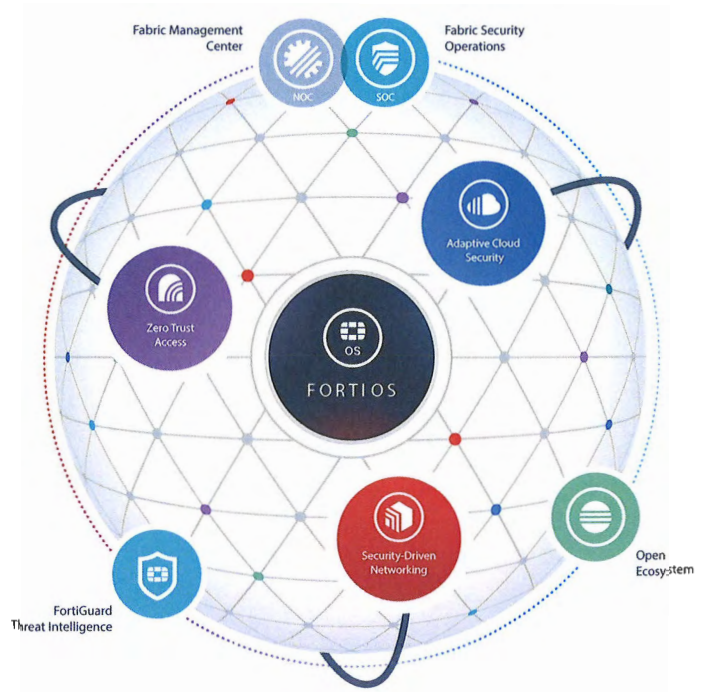
FORTINET SECURITY FABRIC

Security Fabric

The industry's highest-performing cybersecurity platform, powered by FortiOS, with a rich ecosystem designed to span the extended digital attack surface, delivering fully automated, self-healing network security.

- **Broad:** Coordinated detection and enforcement across the entire digital attack surface and lifecycle with converged networking and security across edges, clouds, endpoints, and users
- **Integrated:** Integrated and unified security, operation, and performance across different technologies, location, deployment options, and the richest ecosystem
- **Automated:** Context aware, self-healing network and security posture leveraging cloud-scale and advanced AI to automatically deliver near-real-time, user-to-application coordinated protection across the Fabric

The Fabric empowers organizations of any size to secure and simplify their hybrid infrastructure on the journey to digital innovation.



FortiOS™ Operating System

FortiOS, Fortinet's leading operating system enable the convergence of high performing networking and security across the Fortinet Security Fabric delivering consistent and context-aware security posture across network endpoint, and clouds. The organically built best of breed capabilities and unified approach allows organizations to run their businesses without compromising performance or protection, supports seamless scalability, and simplifies innovation consumption.

The release of FortiOS 7 dramatically expands the Fortinet Security Fabric's ability to deliver consistent security across hybrid deployment models of Hardware, Software, and Software As-a-Service with SASE and ZTNA, among others.

SERVICES

FortiGuard™ Security Services

FortiGuard Labs offer real-time intelligence on the threat landscape, delivering comprehensive security updates across the full range of Fortinet's solutions. Comprised of security threat researchers, engineers, and forensic specialists, the team collaborates with the world's leading threat monitoring organizations and other network and security vendors, as well as law enforcement agencies.

FortiCare™ Services

Fortinet is dedicated to helping our customers succeed, and every year FortiCare services help thousands of organizations get the most from their Fortinet Security Fabric solution. We have more than 1,000 experts to help accelerate technology implementation, provide reliable assistance through advanced support, and offer proactive care to maximize security and performance of Fortinet deployments.

SPECIFICATIONS

	FG-600E	FG-601E
Interfaces and Modules		
Hardware Accelerated 10 GE SFP+ Slots		2
Hardware Accelerated GE RJ45 Interfaces		8
Hardware Accelerated GE SFP Slots		8
GE RJ45 Management Ports		2
USB Ports		2
RJ45 Console Port		1
Onboard Storage	0	2x 240 GB SSD
Included Transceivers	2x SFP (SX 1 GE)	
System Performance — Enterprise Traffic Mix		
IPS Throughput ²	10 Gbps	
NGFW Throughput ^{2,4}	9.5 Gbps	
Threat Protection Throughput ^{2,5}	7 Gbps	
System Performance and Capacity		
IPv4 Firewall Throughput (1518 / 512 / 64 byte, UDP)	36 / 36 / 27 Gbps	
IPv6 Firewall Throughput (1518 / 512 / 64 byte, UDP)	36 / 36 / 27 Gbps	
Firewall Latency (64 byte, UDP)	1.54 µs	
Firewall Throughput (Packet per Second)	40.5 Mpps	
Concurrent Sessions (TCP)	8 Million	
New Sessions/Second (TCP)	450,000	
Firewall Policies	10,000	
IPsec VPN Throughput (512 byte) ¹	20 Gbps	
Gateway-to-Gateway IPsec VPN Tunnels	2,000	
Client-to-Gateway IPsec VPN Tunnels	50,000	
SSL-VPN Throughput	7 Gbps	
Concurrent SSL-VPN Users (Recommended Maximum, Tunnel Mode)	10,000	
SSL Inspection Throughput (IPS, avg. HTTPS) ³	8 Gbps	
SSL Inspection CPS (IPS, avg. HTTPS) ³	5,500	
SSL Inspection Concurrent Session (IPS, avg. HTTPS) ³	800,000	
Application Control Throughput (HTTP 64K) ²	15 Gbps	
CAPWAP Throughput (HTTP 64K)	18 Gbps	
Virtual Domains (Default / Maximum)	10 / 10	
Maximum Number of FortiSwitches Supported	96	
Maximum Number of FortiAPs (Total / Tunnel)	1,024 / 512	
Maximum Number of FortiTokens	5,000	
High Availability Configurations	Active-Active, Active-Passive, Clustering	

	FG-600E	FG-601E
Dimensions and Power		
Height x Width x Length (inches)	1.75 x 17.0 x 15.0	
Height x Width x Length (mm)	44.45 x 432 x 380	
Weight	16.1 lbs (7.3 kg)	16.6 lbs (7.5 kg)
Form Factor	Rack Mount, 1 RU	
Power Source	100–240V, 50/60 Hz	
Power Consumption (Average / Maximum)	129 W / 244 W	
Current (Maximum)	6A@100V	
Heat Dissipation	832 BTU/h	
Redundant Power Supplies (Hot Swappable)	Optional	
Operating Environment and Certifications		
Operating Temperature	32–104°F (0–40°C)	
Storage Temperature	-31–158°F (-35–70°C)	
Humidity	10–90% non-condensing	
Noise Level	59 dBA	
Forced Airflow	Side and Front to Back	
Operating Altitude	Up to 9,843 ft (3,000 m)	
Compliance	FCC Part 15 Class A, RCM, VCCI, CE, UL/cUL, CB	
Certifications	ICSA Labs: Firewall, IPsec, IPS, Antivirus, SSL-VPN, USGv6/IPv6	

Note: All performance values are "up to" and vary depending on system configuration.

1. IPsec VPN performance test uses AES256-SHA256.
2. IPS (Enterprise Mix), Application Control, NGFW and Threat Protection are measured with Logging enabled.
3. SSL Inspection performance values use an average of HTTPS sessions of different cipher suites.

4. NGFW performance is measured with Firewall, IPS and Application Control enabled.
5. Threat Protection performance is measured with Firewall, IPS, Application Control and Malware Protection enabled.

ORDERING INFORMATION

Product	SKU	Description
FortiGate 600E	FG-600E	2× 10 GE SFP+ slots, 10x GE RJ45 ports (including 1x MGMT port, 1x HA port, 8x switch ports), 8x GE SFP slots, SPU NP6 and CP9 hardware accelerated.
FortiGate 601E	FG-601E	2× 10 GE SFP+ slots, 10x GE RJ45 ports (including 1x MGMT port, 1x HA port, 8x switch ports), 8x GE SFP slots, SPU NP6 and CP9 hardware accelerated, 2× 240 GB onboard SSD storage.
Optional Accessories		
1 GE SFP LX Transceiver Module	FN-TRAN-LX	1 GE SFP LX transceiver module for all systems with SFP and SFP/SFP+ slots.
1 GE SFP RJ45 Transceiver Module	FN-TRAN-GC	1 GE SFP RJ45 transceiver module for all systems with SFP and SFP/SFP+ slots.
1 GE SFP SX Transceiver Module	FN-TRAN-SX	1 GE SFP SX transceiver module for all systems with SFP and SFP/SFP+ slots.
10 GE SFP+ Transceiver Module, Short Range	FN-TRAN-SFP+SR	10 GE SFP+ transceiver module, short range for all systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Transceiver Module, Long Range	FN-TRAN-SFP+LR	10 GE SFP+ transceiver module, long range for all systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Transceiver, Extended Range	FN-TRAN-SFP+ER	10 GE SFP+ transceiver module, extended range for all systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ RJ45 Transceiver Module	FN-TRAN-SFP+GC	10 GE SFP+ RJ45 transceiver module for systems with SFP+ slots.
10 GE SFP+ Active Direct Attach Cable, 10m / 32.8 ft	SP-CABLE-ADASFP+	10 GE SFP+ active direct attach cable, 10m / 32.8 ft for all systems with SFP+ and SFP/SFP+ slots.
Optional Power Supply	SP-FG300E-PS	AC power supply for FG-300/301E, FG-400/401E, FG-500/501E, FG-600/601E, FAZ-200F/300F/800F and FMG-200F/300F.

BUNDLES



FortiGuard Bundle

FortiGuard Labs delivers a number of security intelligence services to augment the FortiGate firewall platform. You can easily optimize the protection capabilities of your FortiGate with one of these FortiGuard Bundles.

Bundles	360 Protection	Enterprise Protection	Unified Threat Protection	Advanced Threat Protection
FortiCare	ASE ¹	24×7	24×7	24×7
FortiGuard App Control Service	•	•	•	•
FortiGuard IPS Service	•	•	•	•
FortiGuard Advanced Malware Protection (AMP) — Antivirus, Mobile Malware, Botnet, CDR, Virus Outbreak Protection and FortiSandbox Cloud Service	•	•	•	•
FortiGuard Web and Video ² Filtering Service	•	•	•	
FortiGuard Antispam Service	•		•	
FortiGuard Security Rating Service	•	•		
FortiGuard IoT Detection Service	•	•		
FortiGuard Industrial Service	•	•		
FortiConverter Service	•	•		
SD-WAN Orchestrator Entitlement	•			
SD-WAN Cloud Assisted Monitoring	•			
SD-WAN Overlay Controller VPN Service	•			
Fortinet SOCaas	•			
FortiAnalyzer Cloud	•			
FortiManager Cloud	•			

1. 24×7 plus Advanced Services Ticket Handling 2. Available when running FortiOS 7.0



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DATA SHEET

FortiAP™ Universal Access Point Series

Available in:



Appliance

Universally Manageable Access Points



The FortiAP-U family offers a wide range of models with the additional flexibility of dual 5 GHz support for Wi-Fi 6 APs. Perfect for everything from a large campus to hundreds of branch locations, the FortiAP-U family has a variety of form factors and performance levels. FortiAP-U access points are managed centrally by the integrated WLAN controller of any FortiGate® security appliance, through the FortiAP Cloud provisioning and management portal, or through standalone controllers (FortiWLC). Protect your LAN Edge from the campus to the branch with these high capacity capable APs.



Ability to intelligently support standalone controllers (FortiWLC), integrated security controllers (FortiGate), and cloud management options; and establish a new benchmark in flexibility, performance, and security.



Wi-Fi 6 technology with data rates of up to 4.8 Gbps and OFDMA improves client throughput and overall network efficiency.



Integrates with Fortinet's Security Fabric, providing unparalleled cybersecurity protection at the network edge.

Product Offerings

802.11ax Wi-Fi 6

FAP-U431F FAP-U433F	4x4 Indoor tri-radio dual 5G 11ax APs
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FAP-U231F	2x2 Indoor tri-radio dual 5G 11ax APs
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802.11ac (Wave 2) Wi-Fi 5

FAP-U421EV FAP-U423EV	4x4 MU-MIMO APs with dual radios
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FAP-U422EV	4x4 Outdoor AP, with dual radios
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FAP-U321EV FAP-U323EV	3x3 Indoor dual-radio APs
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802.11ac (Wave 1) Wi-Fi 5

FAP-U221EV FAP-U223EV	2x2 MIMO APs with dual radios
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FAP-U24JE	2x2 Wall jack AP with 4 GE ports
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HIGHLIGHTS

Fortinet Universal access points are designed to support a variety of deployments from branches, to medium to large offices, schools, universities, hospitals, hotels, and large retail stores. The Universal access points can serve such a wide range of applications because they can be managed by any of Fortinet’s control and management offerings: FortiGate, FortiWLC, and FortiAP Cloud.

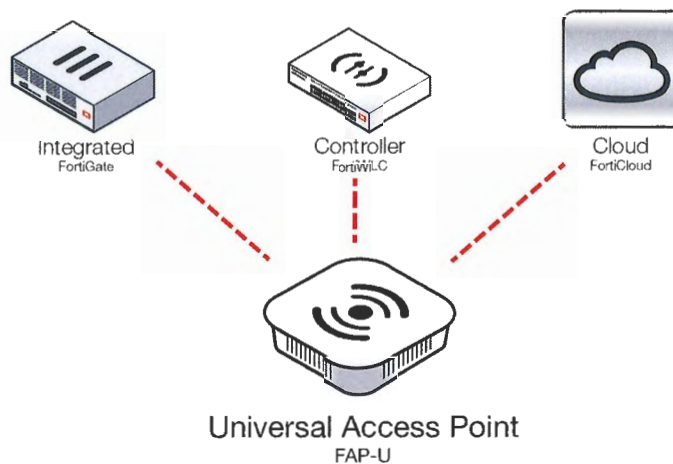


Figure 1 — Universal Access Management, highest Gigabit Wi-Fi performance and unmatched security protection.

Education

The Education sector is at rising risk from cyber attacks. This in conjunction with requirements to protect minors from inappropriate materials can make deploying wireless

a challenge. Our integrated secure wireless controller (FortiGate) ensures secure student access to learning resources while FortiGuard services provides cybersecurity protection.

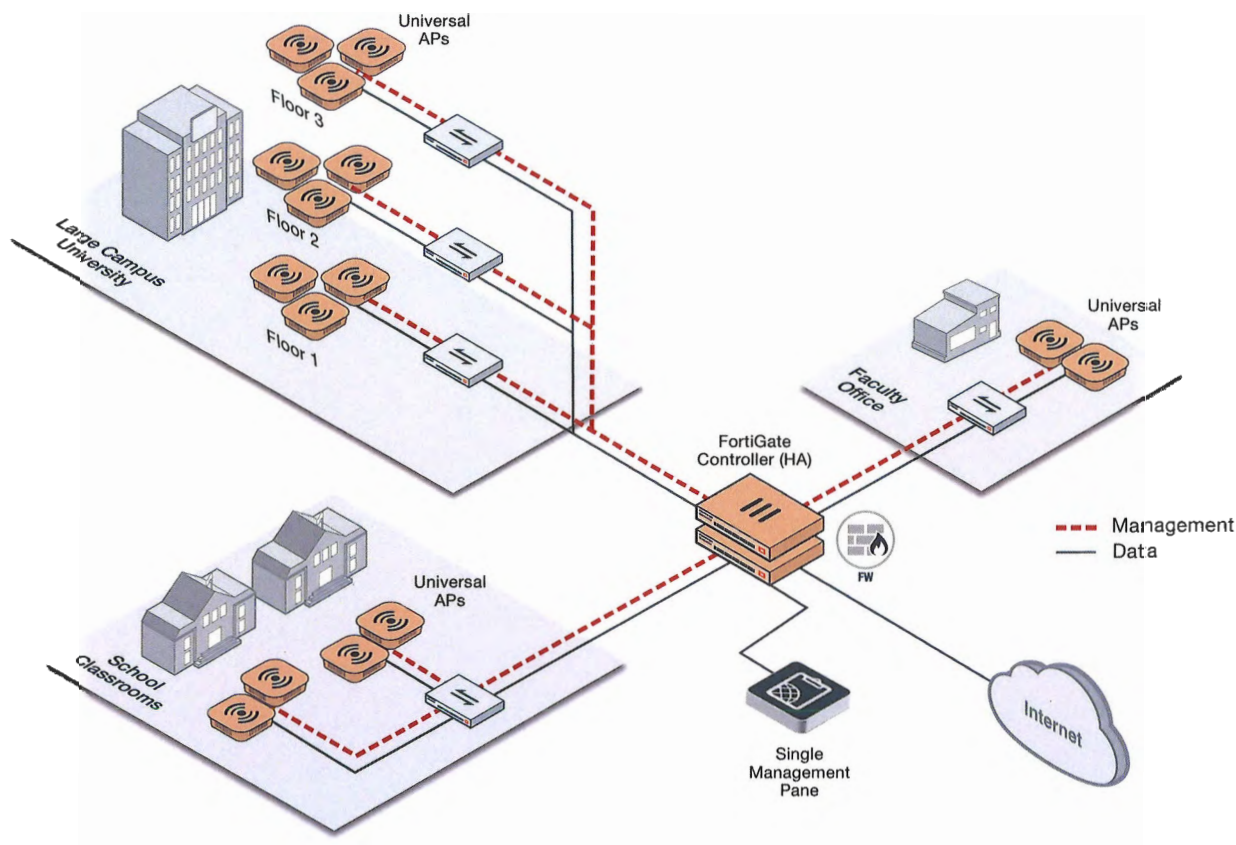


Figure 2 — Educational organizations with Universal APs managed by on-premise FortiGate controllers.



HIGHLIGHTS

Healthcare

Patient safety is priority one. Fortinet Universal APs empower hospitals to improve patient safety by enabling life-critical applications such as telemetry requiring low bandwidth but exceptionally high reliability. Our dedicated wireless

controllers (integrated WLAN controller of any FortiGate security appliance) connected to our Universal access points ensures patient safety remains paramount, while providing improved performance for wireless enabled medical devices.

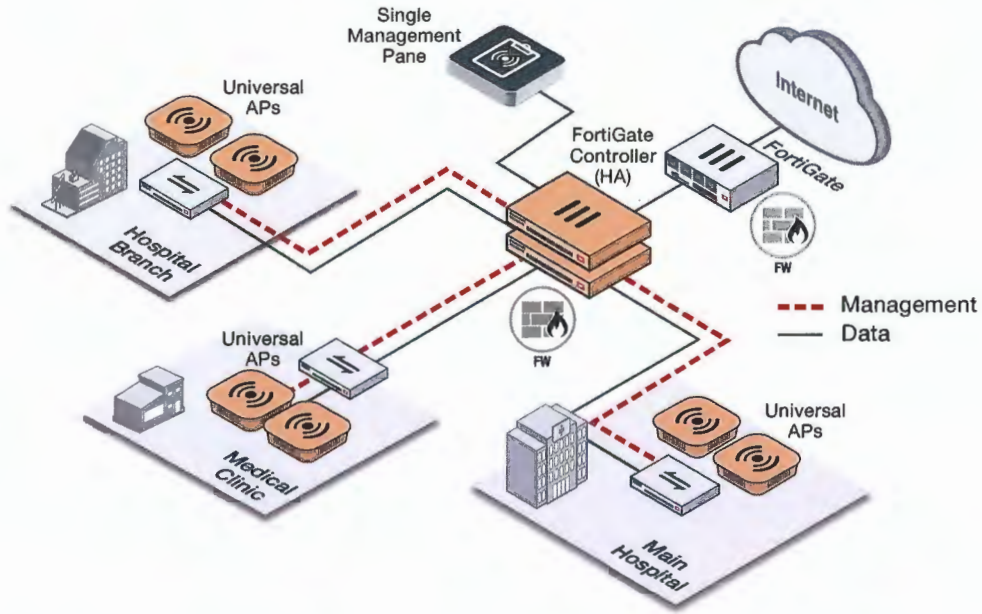


Figure 3 — Healthcare organizations with Universal APs managed by on-premise FortiGate acting as a Wireless controller.

Small/Medium Business

Retailers can streamline Wi-Fi store deployments through the combination of Universal APs and FortiAP Cloud management. This, in combination with FortiDeploy for zero-touch provisioning and deployment, offers a cost-effective solution for retail IT.

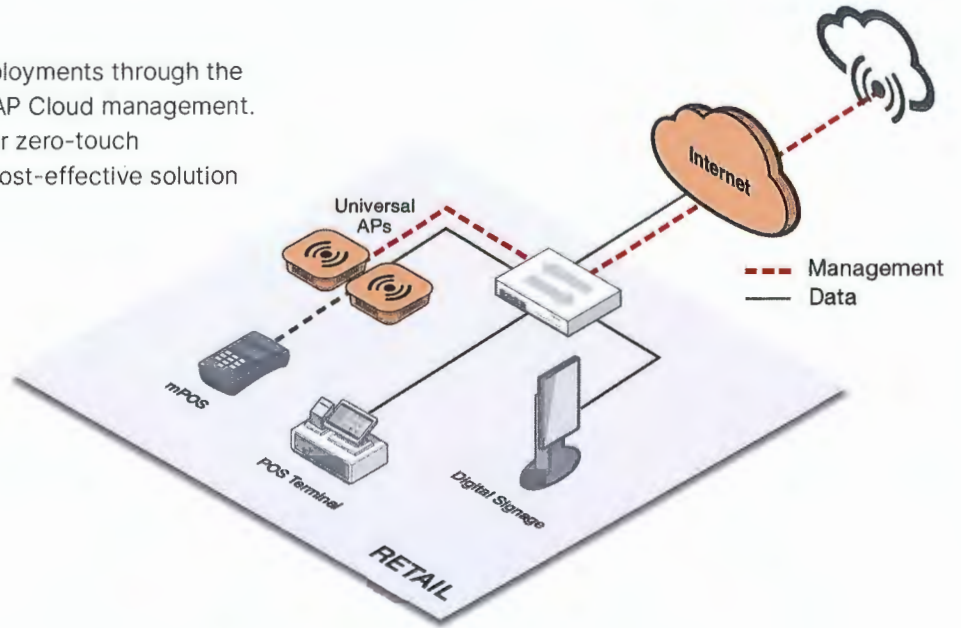


Figure 4 — Retail store with Universal APs managed by FortiCloud.



HIGHLIGHTS

FortiAP U431F and U433F

These enterprise class Wi-Fi6 (802.11ax) indoor APs provide three radios. These top-of-the-line access points provide OFDMA, a 2.5 Gigabit Ethernet port plus an additional 1 Gbps Ethernet port for PoE diversity. The APs can be configured for dual 5 GHz band access while still providing coverage for devices on the 2.4 GHz band, or can be configured to offer dedicated scanning. The integrated BLE radio can be used for beacons and locationing applications.



 802.11ax | Tri-Radio 5 GHz + 5 GHz + 2.4 GHz or 5 GHz + 2.4 GHz + scanning | 10 Antennas

 4x4 MIMO | Up to 4,804 Mbps + 4,804 Mbps + 300 Mbps

SPECIFICATIONS

	FORTIAP-U431F	FORTIAP-U433F
Hardware		
Hardware Type	Indoor AP	Indoor AP
Number of Radios	3 + 1 BLE	3 + 1 BLE
Number of Antennas	10 Internal + 1 BLE Internal	10 External (RP-SMA) + 1 BLE Internal
Antenna Type and Peak Gain	PIFA: 4 dBi for 2.4 GHz, 6 dBi for 5 GHz	Dipole: 3.5 dBi for 2.4 GHz, 5 dBi for 5 GHz
Frequency Bands (GHz)	2.400-2.4835, 5.150-5.250, 5.250-5.350, 5.470-5.725, 5.725-5.850	2.400-2.4835, 5.150-5.250, 5.250-5.350, 5.470-5.725, 5.725-5.850
Radio 1 Capabilities	5.0 GHz a/n/ac/ax (4x4:4 stream) 20/40/80/160 MHz (64/256/1024 QAM)	5.0 GHz a/n/ac/ax (4x4:4 stream) 20/40/80/160 MHz (64/256/1024 QAM)
Radio 2 Capabilities	2.4 GHz or 5.0 GHz (high band) a/b/g/n/ac/ax (4x4:4 stream) 20/40/80/160 MHz (64/256/1024 QAM)	2.4 GHz or 5.0 GHz (high band) a/b/g/n/ac/ax (4x4:4 stream) 20/40/80/160 MHz (64/256/1024 QAM)
Radio 3 Capabilities	2.4/5.0 GHz dual band b/g/n/ac (2x2:2 stream) 20/40 MHz (64 QAM)	2.4/5.0 GHz dual band b/g/n/ac (2x2:2 stream) 20/40 MHz (64 QAM)
Maximum Data Rate	Radio 1: up to 4,804 Mbps Radio 2: up to 4,804 Mbps Radio 3: up to 300 Mbps	Radio 1: up to 4,804 Mbps Radio 2: up to 4,804 Mbps Radio 3: up to 300 Mbps
Bluetooth Low Energy Radio	Bluetooth scanning and iBeacon advertisement @ 4 dBm max TX power	Bluetooth scanning and iBeacon advertisement @ 4 dBm max TX power
Interfaces	1x 10/100/1000/2500 Base-T RJ45, 1x 10/100/1000 Base-T RJ45, 1x Type A USB, 1x RS-232 RJ45 Serial Port	1x 10/100/1000/2500 Base-T RJ45, 1x 10/100/1000 Base-T RJ45, 1x Type A USB, 1x RS-232 RJ45 Serial Port
Power over Ethernet (PoE)	Dual redundant PoE power ports with support for IEEE 802.3at or dual 802.3af power	Dual redundant PoE power ports with support for IEEE 802.3at or dual 802.3af power
Simultaneous SSIDs	Up to 16 (14 if background scanning enabled)	Up to 16 (14 if background scanning enabled)
EAP Type(s)	EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC, EAP-SIM, EAP-AKA, EAP-FAST	EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC, EAP-SIM, EAP-AKA, EAP-FAST
User/Device Authentication	WPA™, WPA2™, and WPA3™ with 802.1x or Preshared key, WEP, Web Captive Portal, MAC blocklist and allowlist	WPA™, WPA2™, and WPA3™ with 802.1x or Preshared key, WEP, Web Captive Portal, MAC blocklist and allowlist
Maximum Tx Power (Conducted)	Radio 1: 5 GHz: 24 dBm / 251 mW (4 chains combined)* Radio 2: 2.4 GHz: 26 dBm / 398 mW (4 chains combined)* 5 GHz: 24 dBm / 251 mW (4 chains combined)* Radio 3: 2.4 GHz: 22 dBm / 158 mW (2 chains combined)*	Radio 1: 5 GHz: 24 dBm / 251 mW (4 chains combined)* Radio 2: 2.4 GHz: 26 dBm / 398 mW (4 chains combined)* 5 GHz: 24 dBm / 251 mW (4 chains combined)* Radio 3: 2.4 GHz: 22 dBm / 158 mW (2 chains combined)*
Kensington Lock	Yes	Yes
IEEE Standards	802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11r, 802.11v, 802.11w, 802.11ac, 802.1Q, 802.1X, 802.3ad, 802.3af, 802.3at, 802.3az, 802.11ax, 802.3bz	802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11r, 802.11v, 802.11w, 802.11ac, 802.1Q, 802.1X, 802.3ad, 802.3af, 802.3at, 802.3az, 802.3bz Wi-Fi 6
SSID Types Supported	Local-Bridge, Mesh, & Tunnel	Local-Bridge, Mesh, & Tunnel
Per Radio Client Capacity	Up to 512 per Radio1 and Radio2	Up to 512 per Radio1 and Radio2
Cellular Co-existence**	Yes	Yes
Reset Button	Yes	Yes

* Frequency selection and power may be restricted to abide by regional regulatory compliance laws.

** Additional filtration added to reduce interference in 2.4GHz band from nearby cellular equipment.



SPECIFICATIONS

	FORTIAP-U431F	FORTIAP-U433F
LED Off Mode	Yes	Yes
Advanced 802.11 Features		
Transmit Beam Forming (TxBF)	Yes	Yes
Low-Density Parity Check (LDPC) Encoding	Yes	Yes
Maximum Likelihood Demodulation (MLD)	Yes	Yes
Maximum Ratio Combining (MRC)	Yes	Yes
A-MPDU and A-MSDU Packet Aggregation	Yes	Yes
OFDMA	Yes (UL and DL)	Yes (UL and DL)
2.4 GHz OFDMA	Yes	Yes
Spatial Reuse (BSS Coloring)	Yes	Yes
HE-MU-MIMO	Yes	Yes
UL-MU-MIMO 802.11ax mode	Yes	Yes
UL-MU-MIMO 802.11ac mode	No	No
DL-MU-MIMO	Yes	Yes
Enhanced Target Wake Time (TWT)	Yes	Yes
ZeroWait DFS /Agile DFS	Yes	Yes
Wireless Monitoring Capabilities		
Rogue Scan Radio Modes	Background, Dedicated	Background, Dedicated
WIPS / WIDS Radio Modes	Background, Dedicated (recommended)	Background, Dedicated (recommended)
Packet Sniffer Mode	Yes	Yes
Spectrum Analyzer	Yes	Yes
Dimensions		
Length x Width x Height	8.46 x 8.46 x 2.26 inches (215 x 215 x 57.5 mm)	8.46 x 8.46 x 2.26 inches (215 x 215 x 57.5 mm)
Weight	1.0 lb (0.453 kg)	1.0 lb (0.453 kg)
Package (shipping) Weight	1.8 lbs (0.82 kg)	1.8 lbs (0.82 kg)
Mounting Options	Ceiling, T-Rail, and Wall	Ceiling, T-Rail, and Wall
Included Accessories	Mount kits for Ceiling, T-Rail, and Wall	Mount kits for Ceiling, T-Rail, and Wall, 10x dipole antennas
Environment		
Power Supply	GPI-130, or 2x GPI-115 GPI-130, or 2x GPI-115, or AC adapter SP-FAP43F-PA-X-5	GPI-130, or 2x GPI-115 GPI-130, or 2x GPI-115, or AC adapter SP-FAP43F-PA-X-5
Power Consumption (Maximum)	24.5 W	24.5 W
Humidity	10-90% Non-Condensed 5-90% Condensed	10-90% Non-Condensed 5-90% Condensed
Operating / Storage Temperature	32-122°F (0-50°C) / -31-158°F (-35-70°C)	32-122°F (0-50°C) / -31-158°F (-35-70°C)
Directives	Low Voltage Directive • RoHS	Low Voltage Directive • RoHS
UL2043 Plenum Material	Yes	Yes
Mean Time Between Failures	>30 Years	>30 Years
IP Rating	—	—
Surge Protection Built In	—	—
Hit-less PoE Failover	Yes (802.3at only)	Yes (802.3at only)
Certifications		
Wi-Fi Alliance Certified	Yes	Yes
DFS	FCC, IC, CE, Japan, Taiwan, Korea	FCC, IC, CE, Japan, Taiwan, Korea
Warranty		
Limited Lifetime Warranty	Yes	Yes

FAP-U431F / FAP-U433F RF RX/TX PERFORMANCE TABLE

FORTIAP U431F AND U433F						
	Radio 1		Radio 2		Radio 3	
	Max Tx Power per transmit chain (dBm)	Rx Sensitivity per receiver chain (dBm)	Max Tx Power per transmit chain (dBm)	Rx Sensitivity per receiver chain (dBm)	Max Tx Power per transmit chain (dBm)	Rx Sensitivity per receiver chain (dBm)
2.4 GHz, 802.11b						
1 Mbps	20	-98	—	—	19	-96
11 Mbps	20	-89	—	—	19	-87
2.4 GHz, 802.11g						
6 Mbps	20	-94	—	—	19	-92
54 Mbps	20	-75	—	—	19	-73
2.4 GHz, 802.11n HT20						
MCS0	19	-93	—	—	18	-91
MCS7	17	-74	—	—	16	-72
2.4 GHz, 802.11n HT40						
MCS0	19	-92	—	—	18	-90
MCS7	17	-73	—	—	16	-71
2.4 GHz, 802.11ax HE20						
MCS0	18	-90	—	—	17	-88
MCS11	16	-71	—	—	15	-69
2.4 GHz, 802.11ax HE40						
MCS0	17	-88	—	—	16	-86
MCS11	15	-68	—	—	14	-66
5.0 GHz, 802.11a						
6 Mbps	20	-92	20	-92	—	—
54 Mbps	20	-72	20	-72	—	—
5.0 GHz, 802.11n HT20						
MCS0	20	-91	20	-91	—	—
MCS7	18	-72	18	-72	—	—
5.0 GHz, 802.11n HT40						
MCS0	20	-88	20	-88	—	—
MCS7	18	-69	18	-69	—	—
5.0 GHz, 802.11ac VHT20						
MCS0	20	-91	20	-91	—	—
MCS9	18	-67	18	-67	—	—
5.0 GHz, 802.11ac VHT40						
MCS0	20	-88	20	-88	—	—
MCS9	18	-62	18	-62	—	—
5.0 GHz, 802.11ac VHT80						
MCS0	19	-85	19	-85	—	—
MCS9	17	-59	17	-59	—	—
5.0 GHz, 802.11ac VHT160						
MCS0	16	-82	16	-82	—	—
MCS9	15	-56	15	-56	—	—
5.0 GHz, 802.11ax HE20						
MCS0	19	-90	19	-90	—	—
MCS11	17	-66	17	-66	—	—
5.0GHz, 802.11ac HE40						
MCS0	19	-87	19	-87	—	—
MCS11	17	-61	17	-61	—	—
5.0 GHz, 802.11ac HE80						
MCS0	18	-94	18	-94	—	—
MCS11	16	-58	16	-58	—	—



FAP-U431F / FAP-U433F RF RX/TX PERFORMANCE TABLE

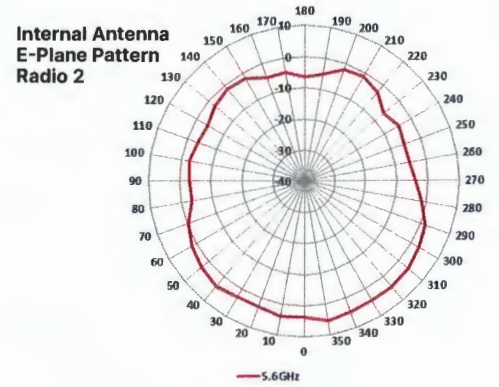
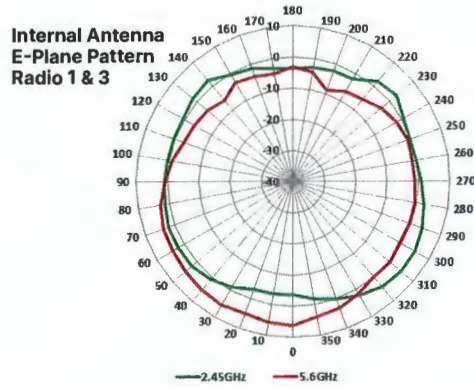
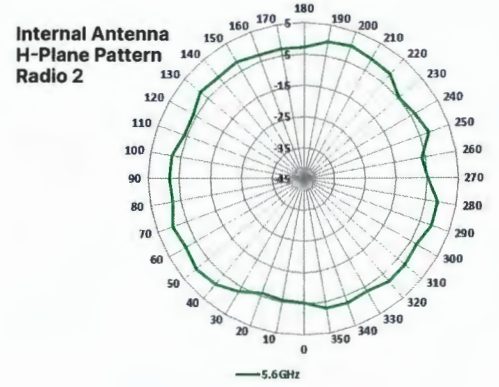
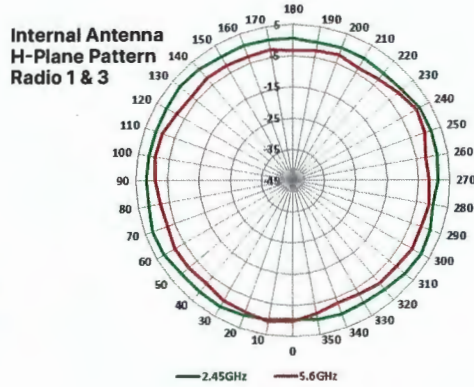
FORTIAP U431F AND U433F						
	Radio 1		Radio 2		Radio 3	
	Max Tx Power per transmit chain (dBm)	Rx Sensitivity per receiver chain (dBm)	Max Tx Power per transmit chain (dBm)	Rx Sensitivity per receiver chain (dBm)	Max Tx Power per transmit chain (dBm)	Rx Sensitivity per receiver chain (dBm)
5.0 GHz, 802.11ac HE160						
MCS0	15	-81	15	-81	---	---
MCS11	14	-55	14	-55	---	---

Maximum capability of the hardware provided (excluding antenna gain)

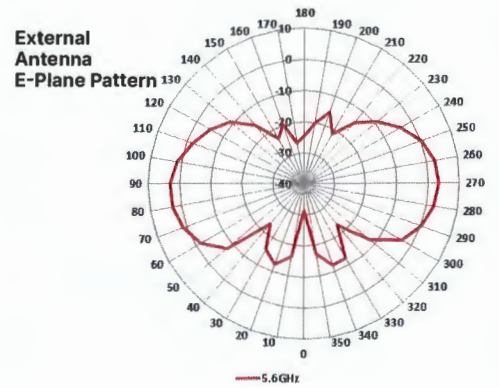
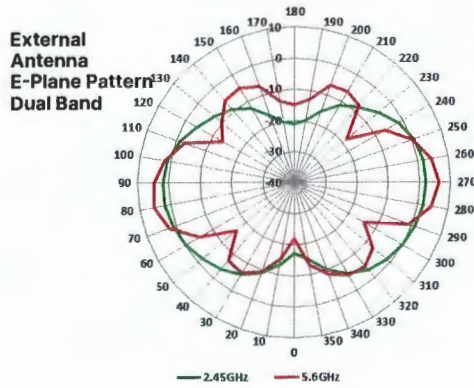
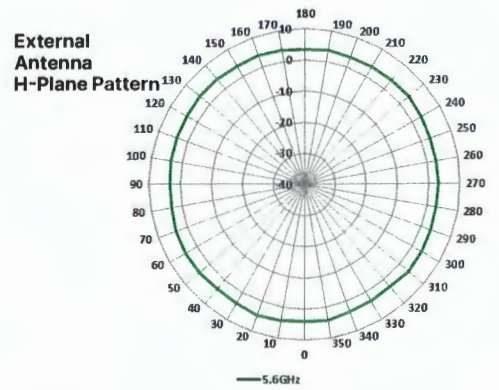
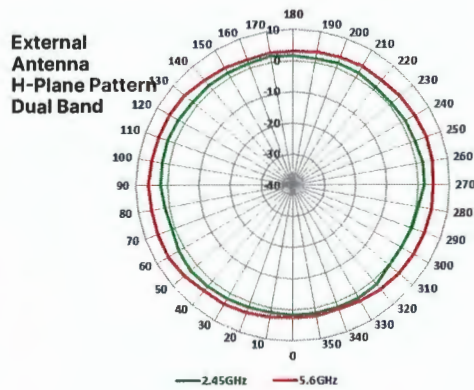
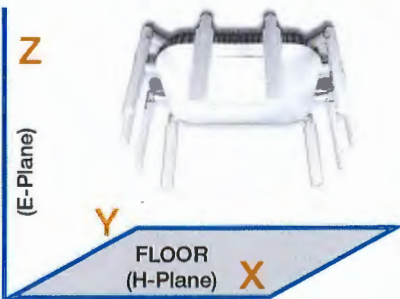


ANTENNA RADIATION PATTERNS

FAP-U431F



FAP-U433F





HIGHLIGHTS

FortiAP U231F

This enterprise class Wi-Fi 6 (802.11ax) indoor AP provides three radios as well as features such as OFDMA and dual 1 Gbps Ethernet ports for PoE diversity. The APs can be configured for dual 5 GHz band access while still providing coverage for devices on the 2.4 GHz band, or can be configured to offer dedicated scanning. The integrated BLE radio can be used for beacons and locationing applications.



-  802.11ax | Tri-Radio 5 GHz + 5 GHz + 2.4 GHz or 5 GHz + 2.4 GHz + scanning | 5 Antennas
-  2x2 MIMO | Up to 1,201 Mbps + 1,201 Mbps + 574 Mbps

SPECIFICATIONS

FORTIAP U231F	
Hardware	
Hardware Type	Indoor AP
Number of Radios	3 + 1 BLE
Number of Antennas	4 Dual band WiFi + 2 WiFi+Dual band Scanning + 1 Single band 2.4GHz BLE/ZigBee
Antenna Type and Peak Gain	PIFA antenna Dual band: 3.97 dBi for 2.4GHz and 5.89 dBi for 5GHz Single band 5Ghz antenna 5dBi for 2.4GHz band BLE antenna 3.5dBi at 2.4GHz band
Frequency Bands (GHz)	
Radio 1 Capabilities	Band: 2.4 GHz or 5.0 GHz (High Band) b/g/n/ac/ax (2x2:2 stream) Channel width: 20/40/80MHz Modulation: BPSK, QPSK, 64/256/1024 QAM
Radio 2 Capabilities	5.0 GHz a/b/g/n/ac/ax (2x2:2 stream) Channel width: 20/40/80MHz Modulation: BPSK, QPSK, 64/256/1024QAM
Radio 3 Capabilities	Service: (2x2:2 stream) Band: 2.4 GHz service b/g/n/ax Channel width: 20/40MHz Modulation: BPSK, QPSK, 64/256/1024QAM Scan: dual band scan
Maximum Data Rate	Radio 1: up to 1201 Mbps Radio 2: up to 1201 Mbps Radio 3: up to 574 Mbps
Bluetooth Low Energy Radio	Bluetooth scanning and iBeacon advertisement @ 10 dBm max TX power
Interfaces	2x 10/100/1000 Base-T RJ45, 1x Type 2.0 USB, 1x RS-232 RJ45 Serial Port
Power over Ethernet (PoE)	1 x 802.3at PoE default 1 x 802.af PoE with reduce TX power and no USB function
Simultaneous SSIDs	Up to 24 (21 if background scanning enabled)
EAP Type(s)	EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC, EAP-SIM, EAP-AKA, EAP-FAST
User/Device Authentication	WPA™, WPA2™, and WPA3™ with 802.1x or Pre-shared key, WEP, Web Captive Portal, MAC blocklist and allowlist
Maximum Tx Power (Conducted)	Radio 1: 2.4GHz: 23 dBm / 200 mW (2 chains combined)* 5GHz: 22 dBm / 158 mW (2 chains combined)* Radio 2: 5GHz: 22 dBm / 158 mW (2 chains combined)* Radio 3: 2.4GHz: 23 dBm / 200 mW (2 chains combined)* 5GHz: 22 dBm / 158 mW (2 chains combined)*
Kensington Lock	Yes

FORTIAP U231F	
IEEE Standards	802.11a, 802.11b, 802.11e, 802.11g, 802.11i, 802.11j, 802.11k, 802.11n, 802.11r, 802.11w, 802.11ac, 802.11ax, 802.11Q, 802.11X, 802.3ad, 802.3af, 802.3at, 802.3az
SSID Types Supported	Local-Bridge, Tunnel, and Mesh
Per Radio Client Capacity	Up to 512 clients per radio (all radios)
Cellular Co-existence**	Yes
Reset Button	Yes
LED Off Mode	Yes
Advanced 802.11 Features	
Transmit Beam Forming (TxBF)	Yes
Low-Density Parity Check (LDPC) Encoding	Yes
Maximum Likelihood Demodulation (MLD)	Yes
Maximum Ratio Combining (MRC)	Yes
A-MPDU and A-MSDU Packet Aggregation	Yes
OFDMA	Yes
2.4 GHz OFDMA	Yes
Spatial Reuse (BSS Coloring)	Yes
HE-MU-MIMO	Yes
UL MU-MIMO 802.11ax mode	Yes
UL MU-MIMO 802.11ac mode	No
DL-MU-MIMO	Yes
Enhanced Target Wake Time (TWT)	Yes
ZeroWait DFS/Agile DFS	Yes
Wireless Monitoring Capabilities	
Rogue Scan radio modes	Background, Dedicated
WIPS / WIDS radio modes	Background, Dedicated (recommended)
Packet Sniffer Mode	Yes
Spectrum Analyzer	Yes
Dimensions	
Length x Width x Height	8.5 x 8.5 x 2.25 inches (185 x 185 x 52 mm)
Weight	1.5 lbs (0.68 kg)
Package (shipping) Weight	2.6 lbs (1.185 kg)
Mounting Options	Ceiling, T-Rail, and Wall
Included Accessories	Standard Mount kit for Ceiling, T-Rail and Wall



SPECIFICATIONS

FORTIAP U231F	
Environment	
Power Supply	GPI-130 or SP-FAP250-PAX-10
Power Consumption (Maximum)	18.5W
Humidity	5 - 90% non condensing
Operating / Storage Temperature	32-122°F (0 - 50°C) / -22-158°F (-30-70°C)
Directives	Low Voltage Directive • RoHS
UL2043 Plenum Material	Yes
Mean Time Between Failures	> 10 Years
IP Rating	N/A
Surge Protection Built In	--
Hit-less PoE Failover	N/A
Certifications	
WiFi Alliance Certified	No
DFS	No
Warranty	
Limited Lifetime Warranty	Yes

* Frequency selection and power may be restricted to abide by regional regulatory compliance laws.

** Additional filtration added to reduce interference in 2.4 GHz band from nearby cellular equipment.



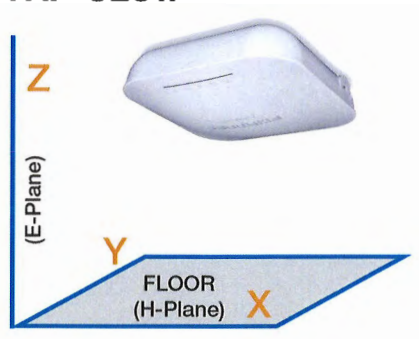
FAP-U231F RX/TX PERFORMANCE TABLE

FORTIAP U231F						
	Radio 1		Radio 2		Radio 3	
	Max Tx Power per transmit chain (dBm)	Rx Sensitivity per receiver chain (dBm)	Max Tx Power per transmit chain (dBm)	Rx Sensitivity per receiver chain (dBm)	Max Tx Power per transmit chain (dBm)	Rx Sensitivity per receiver chain (dBm)
2.4 GHz, 802.11b						
1 Mbps	20	-98	—	—	20	-96
11 Mbps	20	-89	—	—	20	-87
2.4 GHz, 802.11g						
6 Mbps	20	-94	—	—	20	-92
54 Mbps	19	-75	—	—	19	-73
2.4 GHz, 802.11n HT20						
MCS0	20	-93	—	—	20	-91
MCS7	18	-75	—	—	18	-72
2.4 GHz, 802.11n HT40						
MCS0	19	-91	—	—	19	-90
MCS7	18	-69	—	—	18	-71
2.4 GHz, 802.11ax HE20						
MCS0	20	93	—	—	20	-88
MCS11	19	-71	—	—	19	-69
2.4 GHz, 802.11ax HE40						
MCS0	19	-90	—	—	19	-86
MCS11	18	-65	—	—	18	-66
5.0 GHz, 802.11a						
6 Mbps	21	-92	20	-92	21	-92
54 Mbps	20	-75	19	-75	20	-75
5.0 GHz, 802.11n HT20						
MCS0	20	-91	20	-92	20	-91
MCS7	18	-74	18	-74	18	-74
5.0 GHz, 802.11n HT40						
MCS0	20	-90	20	-89	20	-90
MCS7	18	-72	18	-71	18	-72
5.0 GHz, 802.11ac VHT20						
MCS0	20	-92	20	-92	20	-92
MCS9	19	-70	19	-70	19	-70
5.0 GHz, 802.11ac VHT40						
MCS0	20	-89	20	-90	20	-89
MCS9	18	-66	18	-65	18	-66
5.0 GHz, 802.11ac VHT80						
MCS0	19	-87	19	-86	19	-87
MCS9	18	-62	18	-61	18	-62
5.0 GHz, 802.11ax HE20						
MCS0	20	-93	20	-93	20	-93
MCS11	18	-66	18	-62	18	-66
5.0GHz, 802.11ac HE40						
MCS0	20	-87	20	-90	20	-87
MCS11	18	-61	18	-60	18	-61
5.0 GHz, 802.11ac HE80						
MCS0	19	-94	19	-89	19	-94
MCS11	17	-58	17	-58	17	-58

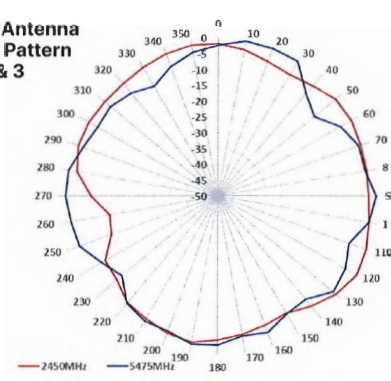
Maximum capability of the hardware provided (excluding antenna gain)

ANTENNA RADIATION PATTERNS

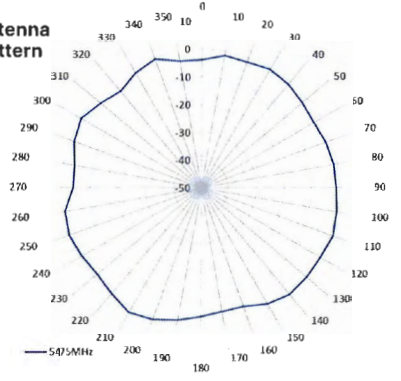
FAP-U231F



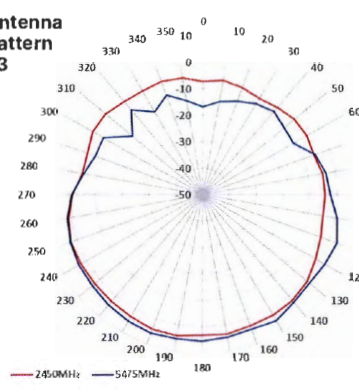
Internal Antenna
H-Plane Pattern
Radio 1 & 3



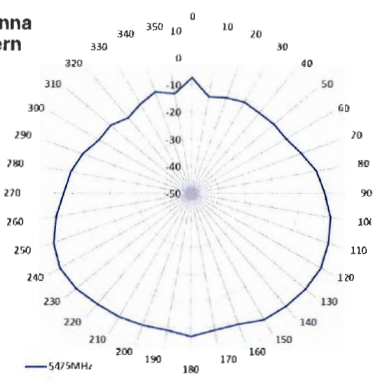
Internal Antenna
H-Plane Pattern
Radio 2



Internal Antenna
E-Plane Pattern
Radio 1 & 3



Internal Antenna
E-Plane Pattern
Radio 2





HIGHLIGHTS

FortiAP U421EV and U423EV

The FortiAP U421EV and U423EV access points support the latest 802.11ac Wave 2 standard, with a maximum data rate of up to 3.4 Gbps. Additional features include 802.11ac explicit transmit beamforming (TxBF), MU-MIMO, and more.



-  802.11ac Wave 2 | Dual Radio 2.4 & 5 GHz | 8 Internal/External Antennas
-  4x4 MU-MIMO | Up to 600 Mbps + 3,466 Mbps

SPECIFICATIONS

	FORTIAP U421EV	FORTIAP U423EV
Hardware		
Hardware Type	Indoor AP	Indoor AP
Number of Radios	2 + 1 BLE	2 + 1 BLE
Number of Antennas	8 Internal + 1 BLE Internal	8 External (RP-SMA) + 1 BLE Internal
Antenna Type and Peak Gain	Patch: 4 dBi for 2.4 GHz, 5 dBi for 5 GHz	Dipole: 3 dBi for 2.4 GHz, 3 dBi for 5 GHz
Frequency Bands (GHz)	2.400–2.4835, 5.150–5.250, 5.250–5.350, 5.470–5.725, 5.725–5.850	2.400–2.4835, 5.150–5.250, 5.250–5.350, 5.470–5.725, 5.725–5.850
Radio 1 Capabilities	2.4 GHz b/g/n (4x4:4 stream) 20/40 MHz (64 QAM)	2.4 GHz b/g/n (4x4:4 stream) 20/40 MHz (64 QAM)
Radio 2 Capabilities	5 GHz a/n/ac (4x4:4 stream) 20/40/80/160 MHz (256 QAM)	5 GHz a/n/ac (4x4:4 stream) 20/40/80/160 MHz (256 QAM)
Maximum Data Rate	Radio 1: up to 600 Mbps Radio 2: up to 3,466 Mbps	Radio 1: up to 600 Mbps Radio 2: up to 3,466 Mbps
Bluetooth Low Energy Radio	Bluetooth scanning and iBeacon advertisement @ 4 dBm max TX power	Bluetooth scanning and iBeacon advertisement @ 4 dBm max TX power
Interfaces	2x 10/100/1000 Base-T RJ45, 1x Type A USB, 1x RS-232 RJ45 Serial Port	2x 10/100/1000 Base-T RJ45, 1x Type A USB, 1x RS-232 RJ45 Serial Port
Power over Ethernet (PoE)	Dual redundant PoE power ports with support for IEEE 802.3at (2x2 operation at 17 dBm TX Power and USB disabled with 802.3af)	Dual redundant PoE power ports with support for IEEE 802.3at (2x2 operation at 17 dBm TX Power and USB disabled with 802.3af)
Simultaneous SSIDs	Up to 16 (14 if background scanning enabled)	Up to 16 (14 if background scanning enabled)
EAP Type(s)	EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC EAP-SIM, EAP-AKA, EAP-FAST	EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC EAP-SIM, EAP-AKA, EAP-FAST
User/Device Authentication	WPA™, WPA2™, and WPA3™ with 802.1x or Preshared key, WEP, Web Captive Portal, MAC blocklist and allowlist	WPA™, WPA2™, and WPA3™ with 802.1x or Preshared key, WEP, Web Captive Portal, MAC blocklist and allowlist
Maximum Tx Power (Conducted)	2.4 GHz: 28 dBm / 631 mW (4 chains combined)* 5 GHz: 26 dBm / 398mW (4 chains combined)*	2.4 GHz: 28 dBm / 631 mW (4 chains combined)* 5 GHz: 26 dBm / 398mW (4 chains combined)*
Kensington Lock	Yes	Yes
IEEE Standards	802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11v, 802.11w, 802.11ac, 802.11Q, 802.1X, 802.3ad, 802.3af, 802.3at, 802.3az	802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11v, 802.11w, 802.11ac, 802.11Q, 802.1X, 802.3ad, 802.3af, 802.3at, 802.3az
SSID Types Supported	Local-Bridge, Tunnel & Mesh	Local-Bridge, Tunnel & Mesh
Per Radio Client Capacity	Up to 256	Up to 256
Cellular Co-existence**	Yes	Yes
Reset Button	Yes	Yes
LED Off Mode	Yes	Yes

* Frequency selection and power may be restricted to abide by regional regulatory compliance laws.
 ** Additional filtration added to reduce interference in 2.4GHz band from nearby cellular equipment.



SPECIFICATIONS

	FORTIAP U421EV	FORTIAP U423EV
Advanced 802.11 Features		
802.11ac MU-MIMO Wave 2	Yes	Yes
Transmit Beam Forming (TxBF)	Yes	Yes
Low-Density Parity Check (LDPC) Encoding	Yes	Yes
Maximum Likelihood Demodulation (MLD)	Yes	Yes
Maximum Ratio Combining (MRC)	Yes	Yes
A-MPDU and A-MSDU Packet Aggregation	Yes	Yes
MIMO Power Save	Yes	Yes
Short Guard Interval	Yes	Yes
Wireless Monitoring Capabilities		
Rogue Scan Radio Modes	Background, Dedicated	Background, Dedicated
WIPS / WIDS Radio Modes	Background, Dedicated (recommended)	Background, Dedicated (recommended)
Packet Sniffer Mode	Yes	Yes
Spectrum Analyzer	Yes	Yes
Dimensions		
Length x Width x Height	8.46 x 8.46 x 2.2 inches (215 x 215 x 56 mm)	8.46 x 8.46 x 2.2 inches (215 x 215 x 56 mm)
Weight	3.31 lbs (1.5 kg)	3.4 lbs (1.53 kg)
Package (shipping) Weight	5.09 lbs (2.31 kg)	5.36 lbs (2.43 kg)
Mounting Options	Ceiling, T-Rail and Wall	Ceiling, T-Rail and Wall
Included Accessories	Mount kits for Ceiling, T-Rail and Wall	Mount kits for Ceiling, T-Rail and Wall, 8 dipole antennas
Environment		
Power Supply	SP-FAP400-PA-XX, GPI-115, or GPI-130	SP-FAP400-PA-XX, GPI-115, or GPI-130
Power Consumption (Maximum)	24.5 W max power draw in 802.3at mode and 12.5 W max power draw when in 802.3af power mode (operates in at reduced power and spatial streams)	24.5 W max power draw in 802.3at mode and 12.5 W max power draw when in 802.3af power mode (operates in at reduced power and spatial streams)
Humidity	5-90% non-condensing	5-90% non-condensing
Operating / Storage Temperature	-4-122°F (-20-50°C) / -40-158°F (-40-70°C)	-4-122°F (-20-50°C) / -40-158°F (-40-70°C)
Directives	Low Voltage Directive • RoHS	Low Voltage Directive • RoHS
UL2043 Plenum Material	Yes	Yes
Mean Time Between Failures	>30 Years	>30 Years
IP Rating	—	—
Surge Protection Built In	—	—
Hit-less PoE Failover	Yes	Yes
Certifications		
Wi-Fi Alliance Certified	Yes	Yes
DFS	FCC, IC, CE, Japan, Taiwan, Korea	FCC, IC, CE, Japan, Taiwan, Korea
Warranty		
Limited Lifetime Warranty	Yes	Yes

FAP-U421EV / FAP-U423EV RF RX/TX PERFORMANCE TABLE

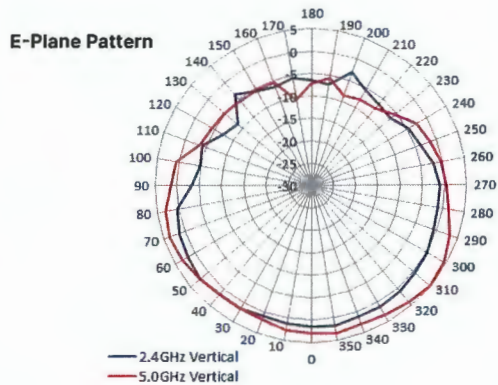
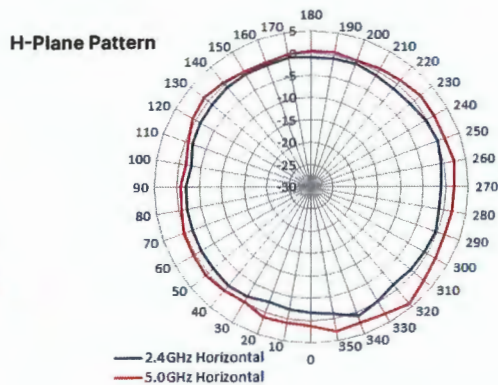
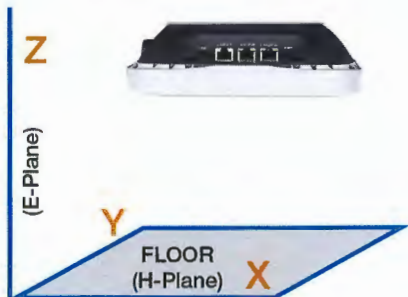
FORTIAP U421EV AND U423EV				
802.11 a/g	Radio 1 2.4 GHz		Radio 2 5 GHz	
	Max Tx Power per transmit chain (dBm)	Rx Sensitivity per receiver chain (dBm)	Max Tx Power per transmit chain (dBm)	Rx Sensitivity per receiver chain (dBm)
6 Mbps	22	-94	20	-91
9 Mbps	22	-92	20	-89
12 Mbps	22	-89	20	-86
18 Mbps	22	-88	20	-85
24 Mbps	22	-83	20	-80
36 Mbps	22	-78	19	-75
48 Mbps	22	-77	19	-74
54 Mbps	19	-76	18	-73
802.11 HT20	Tx Power (dBm)	Rx Sensitivity (dBm)	Tx Power (dBm)	Rx Sensitivity (dBm)
MSC 0/8/16 (BPSK)	22	-91	20	-89
MSC 1/9/17 (QPSK)	21	-89	19	-87
MSC 2/10/18 (QPSK)	20	-86	19	-84
MSC 3/11/19 (16-QAM)	19	-85	18	-83
MSC 4/12/20 (16-QAM)	19	-80	17	-78
MSC 5/13/21 (64-QAM)	18	-75	17	-73
MSC 6/14/22 (64-QAM)	18	-74	17	-72
MSC 7/15/23 (64-QAM)	18	-73	17	-71
802.11 HT40	Tx Power (dBm)	Rx Sensitivity (dBm)	Tx Power (dBm)	Rx Sensitivity (dBm)
MSC 0/8/16 (BPSK)	21	-89	20	-86
MSC 1/9/17 (QPSK)	20	-87	19	-84
MSC 2/10/18 (QPSK)	20	-84	19	-81
MSC 3/11/19 (16-QAM)	19	-83	18	-80
MSC 4/12/20 (16-QAM)	19	-78	18	-75
MSC 5/13/21 (64-QAM)	18	-73	17	-70
MSC 6/14/22 (64-QAM)	18	-72	17	-69
MSC 7/15/23 (64-QAM)	18	-71	17	-68
MSC 8/16/24 (256-QAM)	-	-	14	-65
MSC 9/17/25 (256-QAM)	-	-	14	-63
802.11 HT80	Tx Power (dBm)	Rx Sensitivity (dBm)	Tx Power (dBm)	Rx Sensitivity (dBm)
MSC 0 (BPSK)	-	-	18	-83
MSC 1 (QPSK)	-	-	17	-80
MSC 2 (QPSK)	-	-	17	-78
MSC 3 (16-QAM)	-	-	16	-75
MSC 4 (16-QAM)	-	-	16	-73
MSC 5 (64-QAM)	-	-	15	-72
MSC 6 (64-QAM)	-	-	15	-70
MSC 7 (64-QAM)	-	-	15	-69
MSC 8 (256-QAM)	-	-	15	-65
MSC 9 (256-QAM)	-	-	15	-59

Maximum capability of the Hardware provided (Excluding antenna gain)

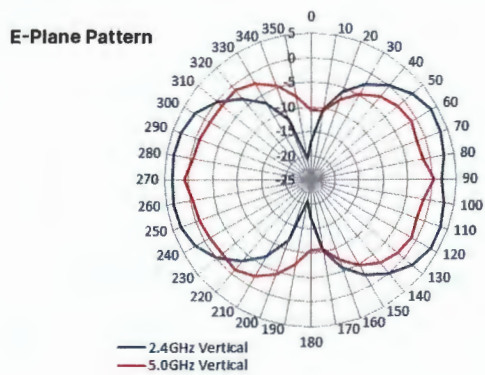
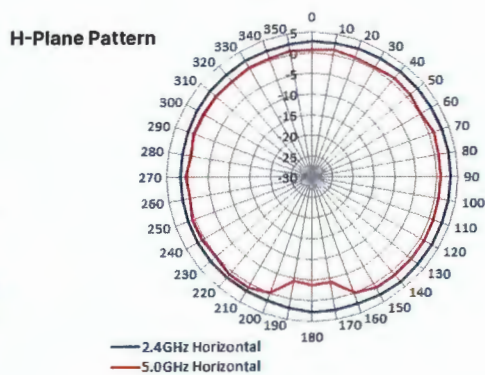
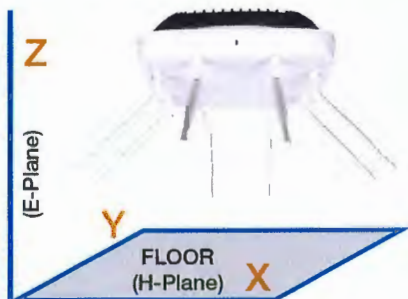


ANTENNA RADIATION PATTERNS

FAP-U421EV



FAP-U423EV



PERFORMANCE MATRIX

FAP-U421EV AND FAP-U423EV 802.11AC PERFORMANCE — DATA RATES (MBPS)									
Descriptor	Data Streams	VHT20		VHT40		VHT80		VH160	
		Normal GI	Short GI	Normal GI	Short GI	Normal GI	Short GI	Normal GI	Short GI
MCS 0	1	6.5	7.2	13.5	15	29.3	32.5	58.6	65
MCS 1	1	13	14.4	27	30	58.5	65	117	130
MCS 2	1	19.5	21.7	40.5	45	87.8	97.5	175.6	195
MCS 3	1	26	28.9	54	60	117	130	234	260
MCS 4	1	39	43.3	81	90	175.5	195	351	390
MCS 5	1	52	57.8	108	120	234	260	468	520
MCS 6	1	58.5	65	121.5	135	263.3	292.5	526.6	585
MCS 7	1	65	72.2	135	150	292.5	325	585	650
MCS 8	1	78	86.7	162	180	351	390	702	780
MCS 9	1	NA	NA	180	200	390	433.3	780	866.6
MCS 0	2	13	14.4	27	30	58.5	65	117	130
MCS 1	2	26	28.9	54	60	117	130	234	260
MCS 2	2	39	43.3	81	90	175.5	195	351	390
MCS 3	2	52	57.8	108	120	234	260	468	520
MCS 4	2	78	86.7	162	180	351	390	702	780
MCS 5	2	104	115.6	216	240	468	520	936	1040
MCS 6	2	117	130	243	270	526.5	585	1053	1170
MCS 7	2	130	144.4	270	300	585	650	1170	1300
MCS 8	2	156	173.3	324	360	702	780	1404	1560
MCS 9	2	NA	NA	360	400	780	866.7	1560	1733.4
MCS 0	3	19.5	21.7	40.5	45	87.8	97.5	175.6	195
MCS 1	3	39	43.3	81	90	175.5	195	351	390
MCS 2	3	58.5	65	121.5	135	263.3	292.5	526.6	585
MCS 3	3	78	86.7	162	180	351	390	702	780
MCS 4	3	117	130	243	270	526.5	585	1053	1170
MCS 5	3	156	173.3	324	360	702	780	1404	1560
MCS 6	3	175.5	195	364.5	405	NA	NA	NA	NA
MCS 7	3	195	216.7	405	450	877.5	975	1755	1950
MCS 8	3	234	260	486	540	1053	1170	2106	2340
MCS 9	3	260	288.9	540	600	1170	1300	N/A	N/A
MCS 0	4	26	28.9	54	60	117	130	234	260
MCS 1	4	52	57.8	108	120	234	260	468	520
MCS 2	4	78	86.7	162	180	351	390	702	780
MCS 3	4	104	115.6	216	240	468	520	936	1040
MCS 4	4	156	173.3	324	360	702	780	1404	1560
MCS 5	4	208	231.1	432	480	936	1040	1872	2080
MCS 6	4	234	260	486	540	1053	1170	2106	2340
MCS 7	4	260	288.9	540	600	1170	1300	2340	2600
MCS 8	4	312	346.7	648	720	1404	1560	2808	3120
MCS 9	4	NA	NA	720	800	1560	1733.3	3120	3466.6





HIGHLIGHTS

FortiAP U422EV

This enterprise class 802.11ac Wave 2 outdoor AP provides dual concurrent 4x4 radios in both 2.4 GHz and 5 GHz frequencies. This top-of-the-line access point provides MU-MIMO, two Gigabit Ethernet ports and supports 1xPD+1xPSE function and withstands harsh outdoor environments with certified IP67 industrial grade protection.



-  **802.11ac Wave 2 | Dual Radio 2.4 GHz & 5 GHz | 8 External Antennas**
-  **4x4 MU-MIMO | Up to 600 Mbps + 3,466 Mbps**

SPECIFICATIONS

FORTIAP U422EV	
Hardware	
Hardware Type	Outdoor AP
Number of Radios	2 + 1 BLE
Number of Antennas	8 External (Type N) + 1 BLE Internal
Antenna Type and Peak Gain	Dipole: 5 dBi for 2.4 GHz, 7 dBi for 5 GHz
Frequency Bands (GHz)	2.400–2.4835, 5.150–5.250, 5.250–5.350, 5.470–5.725, 5.725–5.850
Radio 1 Capabilities	2.4 GHz b/g/n (4x4:4 stream) 20/40 MHz (64 QAM)
Radio 2 Capabilities	5 GHz a/n/ac (4x4:4 stream) 20/40/80/160 MHz (256 QAM)
Maximum Data Rate	Radio 1: up to 600 Mbps Radio 2: up to 3,466 Mbps
Bluetooth Low Energy Radio	Bluetooth scanning and iBeacon advertisement @ 4 dBm max TX power
Interfaces	2x 10/100/1000 Base-T RJ45, 1x RS-232 RJ45 Serial Port
Power over Ethernet (PoE)	LAN1 supports 802.3at or proprietary PoE injector. LAN2 supports 802.3af PSE Out.
Simultaneous SSIDs	Up to 16 (14 if background scanning enabled)
EAP Type(s)	EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC EAP-SIM, EAP-AKA, EAP-FAST
User/Device Authentication	WPA*, WPA2*, and WPA3* with 802.1x or Preshared key, WEP, Web Captive Portal, MAC blacklist and allowlist
Maximum Tx Power (Conducted)	2.4 GHz: 24 dBm / 251 mW (4 chains combined)* 5 GHz: 24 dBm / 251 mW (4 chains combined)*
Kensington Lock	No
IEEE Standards	802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11v, 802.11w, 802.11ac, 802.1Q, 802.1X, 802.3af, 802.3at, 802.3az, 802.3ad
SSID Types Supported	Local-Bridge, Tunnel & Mesh
Per Radio Client Capacity	Up to 256
Cellular Co-existence**	Yes
Reset Button	Yes
LED Off Mode	Yes
Advanced 802.11 Features	
802.11ac MU-MIMO Wave 2	Yes
Transmit Beam Forming (TxBF)	Yes
Low-Density Parity Check (LDPC) Encoding	Yes
Maximum Likelihood Demodulation (MLD)	Yes
Maximum Ratio Combining (MRC)	Yes

FORTIAP U422EV	
A-MPDU and A-MSDU Packet Aggregation	Yes
MIMO Power Save	Yes
Short Guard Interval	Yes
Wireless Monitoring Capabilities	
Rogue Scan Radio Modes	Background, Dedicated
WIPS / WIDS Radio Modes	Background, Dedicated (recommended)
Packet Sniffer Mode	Yes
Spectrum Analyzer	Yes
Dimensions	
Length x Width x Height	8.3 x 8.3 x 2.0 inches (210 x 210 x 51 mm)
Weight	4.08 lbs (1.85 kg)
Package (shipping) Weight	11.42 lbs (5.18 kg)
Mounting Options	Wall Mount or Pole Mount
Included Accessories	Mounting Kits, Grounding Cable, 4x 2.4 GHz and 4x 5 GHz dipole Antennas
Environment	
Power Supply	Proprietary PoE injector or GPI-130
Power Consumption (Maximum)	22 W
Humidity	5–90% non-condensing
Operating / Storage Temperature	-40–140°F (-40–60°C) / -40–158°F (-40–70°C)
Directives	Low Voltage Directive • RoHS
UL2043 Plenum Material	No
Mean Time Between Failures	>9.9 Years
IP Rating	IP67
Surge Protection Built In	Yes
Hit-less PoE Failover	No
Certifications	
Wi-Fi Alliance Certified	Yes
DFS	FCC, IC, CE, Japan
Warranty	
Limited Lifetime Warranty	Yes

* Frequency selection and power may be restricted to abide by regional regulatory compliance laws.
 ** Additional filtration added to reduce interference in 2.4 GHz band from nearby cellular equipment.



FAP-U422EV RF RX/TX PERFORMANCE TABLE

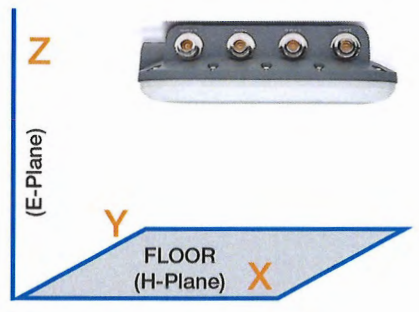
FORTIAP U422EV				
802.11 a/g	Radio 1 2.4 GHz		Radio 2 5 GHz	
	Max Tx Power per transmit chain (dBm)	Rx Sensitivity per receiver chain (dBm)	Max Tx Power per transmit chain (dBm)	Rx Sensitivity per receiver chain (dBm)
6 Mbps	18	-92	18	-91
9 Mbps	18	-90	18	-89
12 Mbps	18	-88	18	-87
18 Mbps	18	-84	18	-85
24 Mbps	18	-82	18	-82
36 Mbps	18	-78	18	-80
48 Mbps	18	-77	18	-77
54 Mbps	18	-75	15	-73
802.11 HT20	Tx Power (dBm)	Rx Sensitivity (dBm)	Tx Power (dBm)	Rx Sensitivity (dBm)
MCS 0 (BPSK)	18	-92	18	-91
MCS 1 (QPSK)	18	-89	18	-88
MCS 2 (QPSK)	18	-86	18	-86
MCS 3 (16-QAM)	18	-83	18	-83
MCS 4 (16-QAM)	18	-80	18	-79
MCS 5 (64-QAM)	18	-75	18	-75
MCS 6 (64-QAM)	17	-74	16	-74
MCS 7 (64-QAM)	17	-72	15	-71
802.11 HT40	Tx Power (dBm)	Rx Sensitivity (dBm)	Tx Power (dBm)	Rx Sensitivity (dBm)
MCS 0 (BPSK)	18	-90	18	-87
MCS 1 (QPSK)	18	-86	18	-84
MCS 2 (QPSK)	18	-84	18	-82
MCS 3 (16-QAM)	18	-80	18	-79
MCS 4 (16-QAM)	18	-77	17	-75
MCS 5 (64-QAM)	18	-73	16	-71
MCS 6 (64-QAM)	17	-71	15	-70
MCS 7 (64-QAM)	16	-70	14	-69
MCS 8 (256-QAM)	-	-	14	-64
MCS 9 (256-QAM)	-	-	13	-62
802.11 HT80	Tx Power (dBm)	Rx Sensitivity (dBm)	Tx Power (dBm)	Rx Sensitivity (dBm)
MCS 0 (BPSK)	-	-	18	-84
MCS 1 (QPSK)	-	-	18	-81
MCS 2 (QPSK)	-	-	18	-79
MCS 3 (16-QAM)	-	-	18	-76
MCS 4 (16-QAM)	-	-	17	-72
MCS 5 (64-QAM)	-	-	16	-68
MCS 6 (64-QAM)	-	-	15	-67
MCS 7 (64-QAM)	-	-	14	-66
MCS 8 (256-QAM)	-	-	13	-61
MCS 9 (256-QAM)	-	-	12	-59

Maximum capability of the hardware provided (excluding antenna gain).

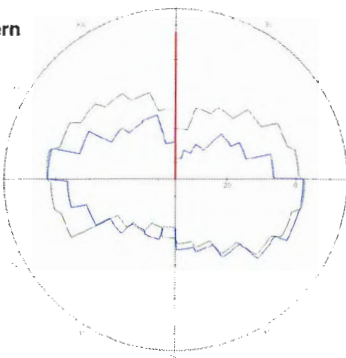


ANTENNA RADIATION PATTERNS

FAP-U422EV

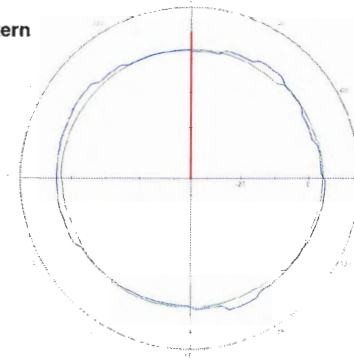


H-Plane Pattern



Radio 1 - 2.4 GHz Radio 2 - 5.5 GHz

E-Plane Pattern





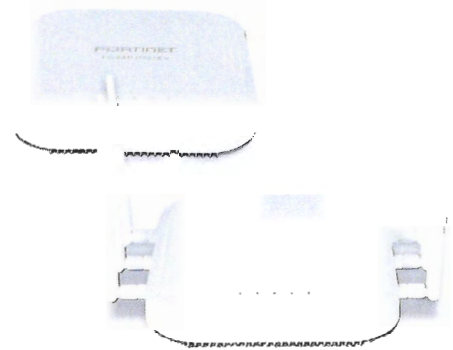
Radio 1 - 2.4 GHz Radio 2 - 5.5 GHz

HIGHLIGHTS

FortiAP U321EV and U323EV

The FortiAP U321EV and U323EV access points support the latest 802.11ac Wave 2 standard, with a maximum data rate of up to 2.6 Gbps. Additional features include 802.11ac explicit transmit beamforming (TxBF), MU-MIMO built in BLE radio for location services and more.

-  802.11ac Wave 2 | Dual Radio 2.4 & 5 GHz | 6 Internal/External Antennas
-  3x3 MU-MIMO | Up to 450 Mbps + 1,300 Mbps



SPECIFICATIONS

	FORTIAP U321EV	FORTIAP U323EV
Hardware		
Hardware Type	Indoor AP	Indoor AP
Number of Radios	2 + 1 BLE	2 + 1 BLE
Number of Antennas	6 Internal + 1 BLE Internal	6 External (RP-SMA) + 1 BLE Internal
Antenna Type and Peak Gain	Patch: 4.5 dBi for 2.4 GHz, 6.5 dBi for 5 GHz	Dipole: 3.5 dBi for 2.4 GHz, 5 dBi for 5 GHz
Frequency Bands (GHz)	2.400–2.4835, 5.150–5.250, 5.250–5.350, 5.470–5.725, 5.725–5.850	2.400–2.4835, 5.150–5.250, 5.250–5.350, 5.470–5.725, 5.725–5.850
Radio 1 Capabilities	2.4 GHz b/g/n (3x3:3 stream) 20/40 MHz (64 QAM)	2.4 GHz b/g/n (3x3:3 stream) 20/40 MHz (64 QAM)
Radio 2 Capabilities	5 GHz a/n/ac (3x3:3 stream) 20/40/80 MHz (256 QAM)	5 GHz a/n/ac (3x3:3 stream) 20/40/80 MHz (256 QAM)
Maximum Data Rate	Radio 1: up to 450 Mbps Radio 2: up to 1,733 Mbps	Radio 1: up to 450 Mbps Radio 2: up to 1,733 Mbps
Bluetooth Low Energy Radio	Bluetooth scanning and iBeacon advertisement @ 4 dBm max TX power	Bluetooth scanning and iBeacon advertisement @ 4 dBm max TX power
Interfaces	2x 10/100/1000 Base-T RJ45, 1x Type A USB, 1x RS-232 RJ45 Serial Port	2x 10/100/1000 Base-T RJ45, 1x Type A USB, 1x RS-232 RJ45 Serial Port
Power over Ethernet (PoE)	Dual redundant PoE power ports with support for IEEE 802.3at (20 dBm TX Power and USB disabled with 802.3af)	Dual redundant PoE power ports with support for IEEE 802.3at (20 dBm TX Power and USB disabled with 802.3af)
Simultaneous SSIDs	Up to 16 (14 if background scanning enabled)	Up to 16 (14 if background scanning enabled)
EAP Type(s)	EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC EAP-SIM, EAP-AKA, EAP-FAST	EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC EAP-SIM, EAP-AKA, EAP-FAST
User/Device Authentication	WPA™, WPA2™, and WPA3™ with 802.1x or Preshared key, WEP, Web Captive Portal, MAC blocklist and allowlist	WPA™, WPA2™, and WPA3™ with 802.1x or Preshared key, WEP, Web Captive Portal, MAC blocklist and allowlist
Maximum Tx Power (Conducted)	2.4 GHz: 26.7 dBm / 468 mW (3 chains combined)* 5 GHz: 24.7 dBm / 295 mW (3 chains combined)*	2.4 GHz: 26.7 dBm / 468 mW (3 chains combined)* 5 GHz: 24.7 dBm / 295 mW (3 chains combined)*
Kensington Lock	Yes	Yes
IEEE Standards	802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11v, 802.11w, 802.11ac, 802.11q, 802.1X, 802.3af, 802.3at, 802.3az, 802.3ad	802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11v, 802.11w, 802.11ac, 802.11q, 802.1X, 802.3af, 802.3at, 802.3az, 802.3ad
SSID Types Supported	Local-Bridge, Tunnel & Mesh	Local-Bridge, Tunnel & Mesh
Per Radio Client Capacity	Up to 256	Up to 256
Cellular Co-existence**	Yes	Yes
Reset Button	Yes	Yes
LED Off Mode	Yes	Yes

* Frequency selection and power may be restricted to abide by regional regulatory compliance laws.

** Additional filtration added to reduce interference in 2.4 GHz band from nearby cellular equipment.

SPECIFICATIONS

	FORTIAP U321EV	FORTIAP U323EV
Advanced 802.11 Features		
802.11ac MU-MIMO Wave 2	Yes	Yes
Transmit Beam Forming (TxBF)	Yes	Yes
Low-Density Parity Check (LDPC) Encoding	Yes	Yes
Maximum Likelihood Demodulation (MLD)	Yes	Yes
Maximum Ratio Combining (MRC)	Yes	Yes
A-MPDU and A-MSDU Packet Aggregation	Yes	Yes
MIMO Power Save	Yes	Yes
Short Guard Interval	Yes	Yes
Wireless Monitoring Capabilities		
Rogue Scan Radio Modes	Background, Dedicated	Background, Dedicated
WIPS / WIDS Radio Modes	Background, Dedicated (recommended)	Background, Dedicated (recommended)
Packet Sniffer Mode	Yes	Yes
Spectrum Analyzer	Yes	Yes
Dimensions		
Length x Width x Height	8.58 × 8.58 × 1.69 inches (218 × 218 × 43 mm)	8.58 × 8.58 × 1.69 inches (218 × 218 × 43 mm)
Weight	2.24 lbs (1.02 kg)	2.25 lbs (1.02 kg)
Package (shipping) Weight	3.73 lbs (1.69 kg)	3.74 lbs (1.70 kg)
Mounting Options	Ceiling, T-Rail and Wall	Ceiling, T-Rail and Wall
Included Accessories	Mount kits for Ceiling, T-Rail and Wall	Mount kits for Ceiling, T-Rail and Wall, 6 dipole antennas
Environment		
Power Supply	SP-FAP200-PA-XX, GPI-115, or GPI-130	SP-FAP200-PA-XX, GPI-115, or GPI-130
Power Consumption (Maximum)	15 W when supplied by 802.3at power and 12.8 W when in 802.3af power mode (TX power limited to 20 dBm)	15 W when supplied by 802.3at power and 12.8 W when in 802.3af power mode (TX power limited to 20 dBm)
Humidity	5–90% non-condensing	5–90% non-condensing
Operating / Storage Temperature	32–122°F (0–50°C) / -40–158°F (-40–70°C)	32–122°F (0–50°C) / -40–158°F (-40–70°C)
Directives	Low Voltage Directive • RoHS	Low Voltage Directive • RoHS
UL2043 Plenum Material	No	No
Mean Time Between Failures	>30 Years	>30 Years
IP Rating	—	—
Surge Protection Built In	—	—
Hit-less PoE Failover	Yes	Yes
Certifications		
Wi-Fi Alliance Certified	Yes	Yes
DFS	FCC, IC, CE, Japan	FCC, IC, CE, Japan
Warranty		
Limited Lifetime Warranty	Yes	Yes



FAP-U321EV / FAP-U323EV RF RX/TX PERFORMANCE TABLE

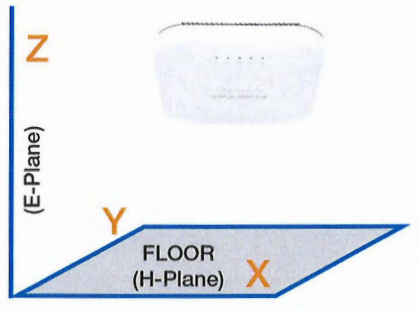
FORTIAP U321EV AND U323EV				
802.11 a/g	Radio 1 2.4 GHz		Radio 2 5 GHz	
	Max Tx Power per transmit chain (dBm)	Rx Sensitivity per receiver chain (dBm)	Max Tx Power per transmit chain (dBm)	Rx Sensitivity per receiver chain (dBm)
6 Mbps	22	-91	20	-90
9 Mbps	22	-90	20	-89
12 Mbps	22	-87	20	-86
18 Mbps	22	-86	20	-85
24 Mbps	22	-81	20	-80
36 Mbps	22	-76	19	-75
48 Mbps	22	-75	19	-74
54 Mbps	19	-74	18	-73
802.11 HT20	Tx Power (dBm)	Rx Sensitivity (dBm)	Tx Power (dBm)	Rx Sensitivity (dBm)
MCS 0/8/16 (BPSK)	21	-90	19	-90
MCS 1/9/17 (QPSK)	21	-86	19	-87
MCS 2/10/18 (QPSK)	20	-83	19	-85
MCS 3/11/19 (16-QAM)	19	-82	18	-82
MCS 4/12/20 (16-QAM)	19	-77	17	-80
MCS 5/13/21 (64-QAM)	18	-75	17	-77
MCS 6/14/22 (64-QAM)	18	-73	17	-74
MCS 7/15/23 (64-QAM)	17	-70	16	-71
802.11 HT40	Tx Power (dBm)	Rx Sensitivity (dBm)	Tx Power (dBm)	Rx Sensitivity (dBm)
MCS 0/8/16 (BPSK)	21	-87	18	-88
MCS 1/9/17 (QPSK)	20	-87	18	-85
MCS 2/10/18 (QPSK)	20	-84	18	-85
MCS 3/11/19 (16-QAM)	19	-83	18	-80
MCS 4/12/20 (16-QAM)	19	-78	18	-78
MCS 5/13/21 (64-QAM)	18	-73	17	-74
MCS 6/14/22 (64-QAM)	18	-72	17	-71
MCS 7/15/23 (64-QAM)	18	-71	15	-68
MCS 8/16/24 (256-QAM)	-	-	15	-64
MCS 9/17/25 (256-QAM)	-	-	15	-61
802.11 HT80	Tx Power (dBm)	Rx Sensitivity (dBm)	Tx Power (dBm)	Rx Sensitivity (dBm)
MCS 0 (BPSK)	-	-	18	-83
MCS 1 (QPSK)	-	-	17	-80
MCS 2 (QPSK)	-	-	17	-78
MCS 3 (16-QAM)	-	-	16	-75
MCS 4 (16-QAM)	-	-	16	-73
MCS 5 (64-QAM)	-	-	15	-75
MCS 6 (64-QAM)	-	-	15	-72
MCS 7 (64-QAM)	-	-	15	-69
MCS 8 (256-QAM)	-	-	15	-61
MCS 9 (256-QAM)	-	-	15	-58

Maximum capability of the Hardware provided (Excluding antenna gain)

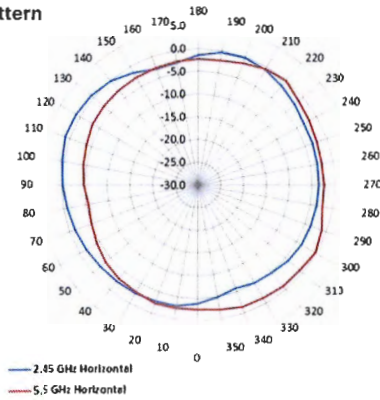


ANTENNA RADIATION PATTERNS

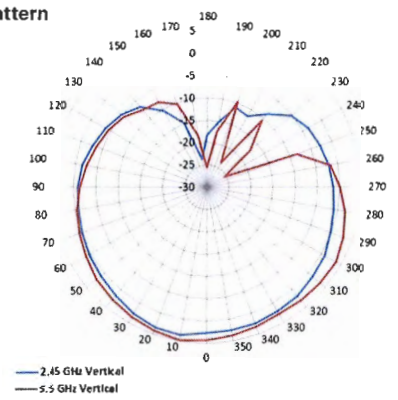
FAP-U321EV



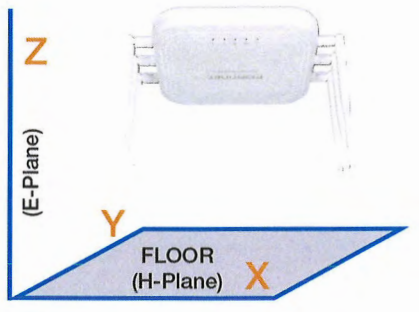
H-Plane Pattern



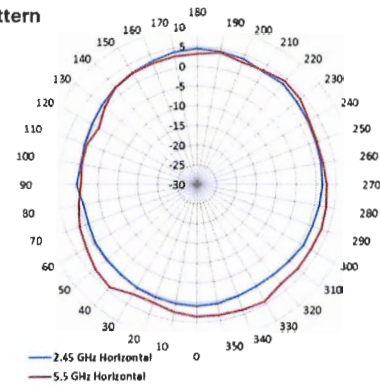
E-Plane Pattern



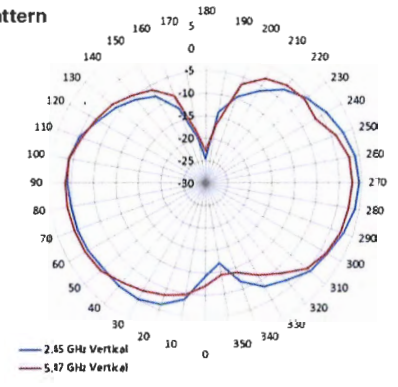
FAP-U323EV



H-Plane Pattern



E-Plane Pattern



PERFORMANCE MATRIX



FAP-U321EV AND FAP-U323EV 802.11AC PERFORMANCE — DATA RATES (MBPS)							
Descriptor	Data Streams	VHT20		VHT40		VHT80	
		Normal GI	Short GI	Normal GI	Short GI	Normal GI	Short GI
MCS 0	1	6.5	7.2	13.5	15	29.3	32.5
MCS 1	1	13	14.4	27	30	58.5	65
MCS 2	1	19.5	21.7	40.5	45	87.8	97.5
MCS 3	1	26	28.9	54	60	117	130
MCS 4	1	39	43.3	81	90	175.5	195
MCS 5	1	52	57.8	108	120	234	260
MCS 6	1	58.5	65	121.5	135	263.3	292.5
MCS 7	1	65	72.2	135	150	292.5	325
MCS 8	1	78	86.7	162	180	351	390
MCS 9	1	NA	NA	180	200	390	433.3
MCS 0	2	13	14.4	27	30	58.5	65
MCS 1	2	26	28.9	54	60	117	130
MCS 2	2	39	43.3	81	90	175.5	195
MCS 3	2	52	57.8	108	120	234	260
MCS 4	2	78	86.7	162	180	351	390
MCS 5	2	104	115.6	216	240	468	520
MCS 6	2	117	130	243	270	526.5	585
MCS 7	2	130	144.4	270	300	585	650
MCS 8	2	156	173.3	324	360	702	780
MCS 9	2	NA	NA	360	400	780	866.7
MCS 0	3	19.5	21.7	40.5	45	87.8	97.5
MCS 1	3	39	43.3	81	90	175.7	195
MCS 2	3	58.5	65	121.5	135	263.3	292.5
MCS 3	3	78	86.7	162	180	351	390
MCS 4	3	117	130	243	270	526.5	585
MCS 5	3	156	173.3	324	360	702	780
MCS 6	3	175.5	195	364.5	405	NA	NA
MCS 7	3	195	216.7	405	450	877.5	975
MCS 8	3	234	260	486	540	1053	1170
MCS 9	3	260	286	540	600	1170	1300



HIGHLIGHTS

FortiAP U221EV and U223EV

The Fortinet U221EV and U223EV access points support the latest 802.11ac Wave 1 standard, with a client association rate of up to 867 Mbps. These APs feature two 2x2:2 radios, supporting client devices transmitting up to two spatial streams.

-  802.11ac Wave 1 | Dual Radio 2.4 & 5 GHz | 4 Internal/External Antennas
-  2x2 MIMO | Up to 300 + 867 Mbps



SPECIFICATIONS

	FORTIAP U221EV	FORTIAP U223EV
Hardware		
Hardware type	Indoor AP	Indoor AP
Number of Radios	2 + 1 BLE	2 + 1 BLE
Number of Antennas	4 Internal + 1 BLE Internal	4 External (RP-SMA) + 1 BLE Internal
Antenna Type and Peak Gain	Patch: 3 dBi for 2.4 GHz, 4 dBi for 5 GHz	Dipole: 3 dBi for 2.4 GHz, 4 dBi for 5 GHz
Frequency Bands (GHz)	2.400-2.4835, 5.150-5.250, 5.250-5.350, 5.470-5.725, 5.725-5.850	2.400-2.4835, 5.150-5.250, 5.250-5.350, 5.470-5.725, 5.725-5.850
Radio 1 Capabilities	2.4 GHz b/g/n (2x2:2 stream) 20/40 MHz (64 QAM)	2.4 GHz b/g/n (2x2:2 stream) 20/40 MHz (64 QAM)
Radio 2 Capabilities	5 GHz a/n/ac (2x2:2 stream) 20/40/80 MHz (256 QAM)	5 GHz a/n/ac (2x2:2 stream) 20/40/80 MHz (256 QAM)
Maximum Data Rate	Radio 1: up to 300 Mbps Radio 2: up to 867 Mbps	Radio 1: up to 300 Mbps Radio 2: up to 867 Mbps
Bluetooth Low Energy Radio	Bluetooth scanning and iBeacon advertisement @ 4 dBm max TX power	Bluetooth scanning and iBeacon advertisement @ 4 dBm max TX power
Interfaces	1x 10/100/1000 Base-T RJ45, 1x Type A USB	1x 10/100/1000 Base-T RJ45, 1x Type A USB
Power over Ethernet (PoE)	IEEE 802.3af or 802.3at	IEEE 802.3af or 802.3at
Simultaneous SSIDs	Up to 16 (14 if background scanning enabled)	Up to 16 (14 if background scanning enabled)
EAP Type(s)	EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC EAP-SIM, EAP-AKA, EAP-FAST	EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC EAP-SIM, EAP-AKA, EAP-FAST
User/Device Authentication	WPA™, WPA2™, and WPA3™ with 802.1x or Preshared key, WEP, Web Captive Portal, MAC blocklist and allowlist	WPA™, WPA2™, and WPA3™ with 802.1x or Preshared key, WEP, Web Captive Portal, MAC blocklist and allowlist
Maximum Tx Power (Conducted)	2.4 GHz: 25 dBm / 316 mW (2 chains combined)* 5 GHz: 23 dBm/ 200 mW (2 chains combined)*	2.4 GHz: 25 dBm / 316 mW (2 chains combined)* 5 GHz: 23 dBm/ 200 mW (2 chains combined)*
Kensington Lock	Yes	Yes
IEEE Standards	802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11v, 802.11w, 802.11ac, 802.1Q, 802.1X, 802.3af, 802.3at, 802.3az	802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11v, 802.11w, 802.11ac, 802.1Q, 802.1X, 802.3af, 802.3at, 802.3az
SSID Types Supported	Local-Bridge, Tunnel & Mesh	Local-Bridge, Tunnel & Mesh
Per Radio Client Capacity	Up to 128	Up to 128
Cellular Co-existence**	Yes	Yes
Reset Button	Yes	Yes
LED Off Mode	Yes	Yes
Advanced 802.11 Features		
802.11ac MU-MIMO Wave 2	No	No
Transmit Beam Forming (TxBF)	Yes	Yes
Low-Density Parity Check (LDPC) Encoding	Yes	Yes
Maximum Likelihood Demodulation (MLD)	Yes	Yes
Maximum Ratio Combining (MRC)	Yes	Yes
A-MPDU and A-MSDU Packet Aggregation	Yes	Yes
MIMO Power Save	Yes	Yes

* Frequency selection and power may be restricted to abide by regional regulatory compliance laws.
 ** Additional filtration added to reduce interference in 2.4GHz band from nearby cellular equipment.



SPECIFICATIONS

	FORTIAP U221EV	FORTIAP U223EV
Short Guard Interval	Yes	Yes
Wireless Monitoring Capabilities		
Rogue Scan Radio Modes	Background, Dedicated	Background, Dedicated
WIPS / WIDS Radio Modes	Background, Dedicated (recommended)	Background, Dedicated (recommended)
Packet Sniffer Mode	Yes	Yes
Spectrum Analyzer	Yes	Yes
Dimensions		
Length x Width x Height	7.87 × 7.87 × 1.5 inches (200 × 200 × 40 mm)	7.87 × 7.87 × 1.5 inches (200 × 200 × 40 mm)
Weight	1.2 lbs (0.55 kg)	1.3 lbs (0.6 kg)
Package (shipping) Weight	2.5 lbs (1.15 kg)	2.6 lbs (1.18 kg)
Mounting Options	Ceiling, T-Rail and Wall	Ceiling, T-Rail and Wall
Included Accessories	Mount kits for Ceiling, T-Rail and Wall	Mount kits for Ceiling, T-Rail and Wall, 4 dipole antennas
Environment		
Power Supply	SP-FAP200-PA-XX, GPI-115, or GPI-130	SP-FAP200-PA-XX, GPI-115, or GPI-130
Power Consumption (Maximum)	12.5 W	12.5 W
Humidity	5–90% non-condensing	5–90% non-condensing
Operating / Storage Temperature	32–122°F (0–50°C) / -40–158°F (-40–70°C)	32–122°F (0–50°C) / -40–158°F (-40–70°C)
Directives	Low Voltage Directive • RoHS	Low Voltage Directive • RoHS
UL2043 Plenum Material	No	No
Mean Time Between Failures	>3 Years	>3 Years
IP Rating	—	—
Surge Protection Built In	—	—
Hit-less PoE Fallover	No	No
Certifications		
Wi-Fi Alliance Certified	Yes	Yes
DFS	FCC, CE, Japan	FCC, CE, Japan
Warranty		
Limited Lifetime Warranty	Yes	Yes

FAP-U221EV / FAP-U223EV RF RX/TX PERFORMANCE TABLE

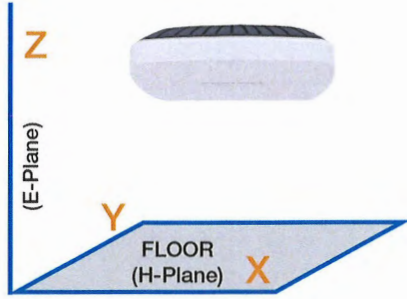
FORTIAP U221EV AND FORTIAP U223EV				
802.11 a/g	Radio 1 2.4 GHz		Radio 2 5 GHz	
	Max Tx Power per transmit chain (dBm)	Rx Sensitivity per receiver chain (dBm)	Max Tx Power per transmit chain (dBm)	Rx Sensitivity per receiver chain (dBm)
1 Mbps	22	-97	-	-
6 Mbps	22	-91	20	-90
9 Mbps	22	-90	20	-89
12 Mbps	22	-87	20	-86
18 Mbps	22	-86	20	-85
24 Mbps	22	-81	20	-80
36 Mbps	22	-76	19	-75
48 Mbps	22	-75	19	-74
54 Mbps	19	-74	18	-73
802.11 HT20	Tx Power (dBm)	Rx Sensitivity (dBm)	Tx Power (dBm)	Rx Sensitivity (dBm)
MCS 0 (BPSK)	21	-90	19	-90
MCS 1 (QPSK)	21	-86	19	-87
MCS 2 (QPSK)	20	-83	19	-85
MCS 3 (16-QAM)	19	-82	18	-82
MCS 4 (16-QAM)	19	-77	17	-80
MCS 5 (64-QAM)	18	-75	17	-77
MCS 6 (64-QAM)	18	-73	17	-74
MCS 7 (64-QAM)	17	-70	16	-71
MCS 8 (256-QAM)	-	-	-	-66
MCS 9 (256-QAM)	-	-	-	-
802.11 HT40	Tx Power (dBm)	Rx Sensitivity (dBm)	Tx Power (dBm)	Rx Sensitivity (dBm)
MCS 0 (BPSK)	21	-87	18	-88
MCS 1 (QPSK)	20	-87	18	-85
MCS 2 (QPSK)	20	-84	18	-85
MCS 3 (16-QAM)	19	-83	18	-80
MCS 4 (16-QAM)	19	-78	18	-78
MCS 5 (64-QAM)	18	-73	17	-74
MCS 6 (64-QAM)	18	-72	17	-71
MCS 7 (64-QAM)	18	-71	15	-68
MCS 8 (256-QAM)	-	-	15	-64
MCS 9 (256-QAM)	-	-	15	-61
802.11 HT80	Tx Power (dBm)	Rx Sensitivity (dBm)	Tx Power (dBm)	Rx Sensitivity (dBm)
MCS 0 (BPSK)	-	-	18	-83
MCS 1 (QPSK)	-	-	17	-80
MCS 2 (QPSK)	-	-	17	-78
MCS 3 (16-QAM)	-	-	16	-75
MCS 4 (16-QAM)	-	-	16	-73
MCS 5 (64-QAM)	-	-	15	-75
MCS 6 (64-QAM)	-	-	15	-72
MCS 7 (64-QAM)	-	-	15	-69
MCS 8 (256-QAM)	-	-	15	-61
MCS 9 (256-QAM)	-	-	15	-58

Maximum capability of the Hardware provided (Excluding antenna gain)

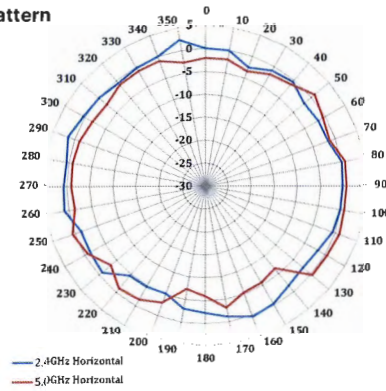


ANTENNA RADIATION PATTERNS

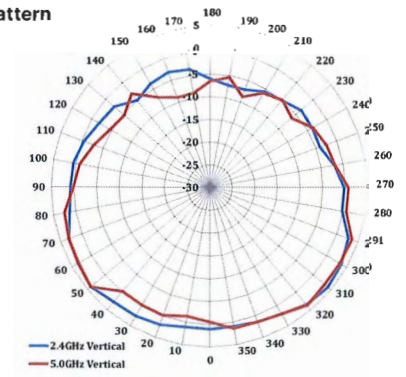
FAP-U221EV



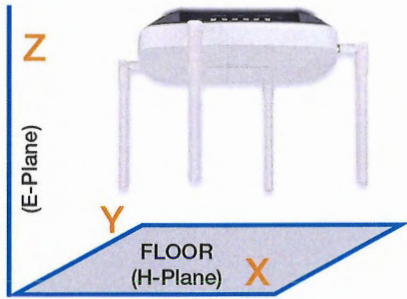
H-Plane Pattern



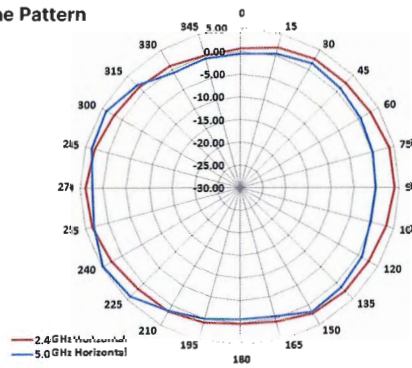
E-Plane Pattern



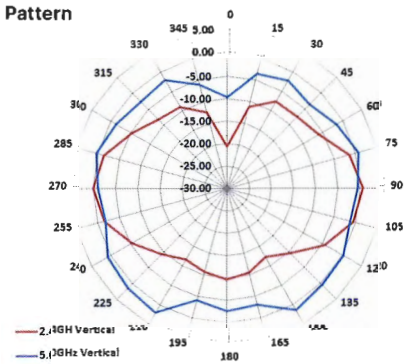
FAP-U223EV



H-Plane Pattern



E-Plane Pattern





HIGHLIGHTS

FortiAP U24JEV

The FortiAP U24JEV is an enterprise low cost next generation compact design 2x2 MU-MIMO 802.11ac Wave 1 Dual Band (2.4 GHz/5.0 GHz) wall plug/wall plate access point with an optionally available stand for desk mounting.



-  802.11ac Wave 1 | 2x2 Radio capable of operating as Dual Band 1x1 Radios
-  2x2 | 2x 1x1 radios up to 867 Mbps

SPECIFICATIONS

FORTIAP U24JEV	
Hardware	
Hardware Type	Wall Plate AP
Number of Radios	1 (can operate as 2) + 1 BLE
Number of Antennas	2 Internal + 1 BLE Internal
Antenna Type and Peak Gain	Patch: 3 dBi for 2.4 GHz, 4 dBi for 5 GHz
Frequency Bands (GHz)	2.400–2.4835, 5.150–5.250, 5.250–5.350, 5.470–5.725, 5.725–5.850
Radio 1 Capabilities	2.4 GHz b/g/n (2x2:2 stream) 20/40 MHz (64 QAM) or 5 GHz a/n/ac (2x2:2 stream) 20/40/80 MHz (256 QAM) or 2.4 GHz b/g/n (1x1:1 stream) 20/40 MHz (64 QAM) & 5 GHz a/n/ac (1x1:1 stream) 20/40/80 MHz (256 QAM)
Radio 2 Capabilities	—
Maximum Data Rate	Up to 867 Mbps
Bluetooth Low Energy Radio	Bluetooth scanning and iBeacon advertisement @ 4 dBm max TX power
Interfaces	4x 10/100/1000 Base-T RJ45 Ports (1x 802.3at PoE (PD), 1x 802.3af PoE (PSE), 2x Non-PoE Ports), 1 Passthrough in RJ45, 1 Passthrough out RJ45
Power over Ethernet (PoE)	802.3af (max PSE output of 4W) or 802.3at (full 802.3af PSE output)
Simultaneous SSIDs	Up to 16 (14 if background scanning enabled)
EAP Type(s)	EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC EAP-SIM, EAP-AKA, EAP-FAST
User/Device Authentication	WPA*, WPA2**, and WPA3** with 802.1x or Preshared key, WEP, Web Captive Portal, MAC blocklist and allowlist
Maximum Tx Power (Conducted)	2.4 GHz: 23 dBm / 200 mW (2 chains combined)* or 5 GHz: 21 dBm / 126 mW (2 chains combined)*
Kensington Lock	No
IEEE Standards	802.11a, 802.11b, 802.11d, 802.11e, 802.11g, 802.11h, 802.11i, 802.11j, 802.11k, 802.11n, 802.11v, 802.11w, 802.11ac, 802.1Q, 802.1X, 802.3af, 802.3at, 802.3az, 802.3ad
SSID Types Supported	Local-Bridge, Tunnel
Per Radio Client Capacity	Up to 128
Cellular Co-existence**	Yes
Reset Button	Yes
LED Off Mode	Yes
Advanced 802.11 Features	
802.11ac MU-MIMO Wave 2	No
Transmit Beam Forming (TxBF)	Yes
Low-Density Parity Check (LDPC) Encoding	Yes

FORTIAP U24JEV	
Maximum Likelihood Demodulation (MLD)	Yes
Maximum Ratio Combining (MRC)	Yes
A-MPDU and A-MSDU Packet Aggregation	Yes
MIMO Power Save	Yes
Short Guard Interval	Yes
Wireless Monitoring Capabilities	
Rogue Scan Radio Modes	Background, Dedicated
WIPS / WIDS Radio Modes	Background, Dedicated (recommended)
Packet Sniffer Mode	Yes
Spectrum Analyzer	Yes
Dimensions	
Length x Width x Height	6.1 x 3.7 x 1.2 inches (155 x 95 x 31 mm)
Weight	0.569 lbs (0.258 kg)
Package (shipping) Weight	1.34 lbs (0.606 kg)
Mounting Options	Wall plate or desk stand
Included Accessories	Mounting kit for wall plate
Environment	
Power Supply	SP-FAPU24-PA-XX, GPI-115, or GPI-130
Power Consumption (Maximum)	24W (Depends on PoE connected and USB power consumed)
Humidity	10–90% non-condensing
Operating / Storage Temperature	32–104°F (0–40°C) / -22–158°F (-30–70°C)
Directives	RoHS
UL2043 Plenum Material	No
Mean Time Between Failures	>30 Years
IP Rating	—
Surge Protection Built In	—
Hit-less PoE Failover	No
Certifications	
Wi-Fi Alliance Certified	Yes
DFS	CE, Japan
Warranty	
Limited Lifetime Warranty	Yes

* Frequency selection and power may be restricted to abide by regional regulatory compliance laws.

** Additional filtration added to reduce interference in 2.4GHz band from nearby cellular equipment.



FAP-U24JEV RF RX/TX PERFORMANCE TABLE

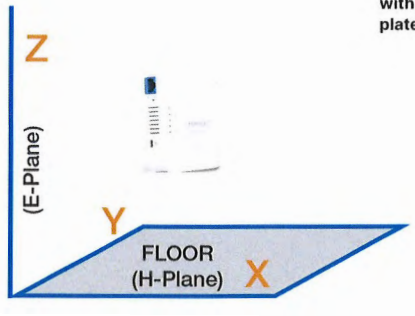
FORTIAP U24JEV				
802.11 a/g	Radio 1 2.4 GHz		Radio 1 5 GHz	
	Max Tx Power per transmit chain (dBm)	Rx Sensitivity per receiver chain (dBm)	Max Tx Power per transmit chain (dBm)	Rx Sensitivity per receiver chain (dBm)
6 Mbps	20	-96	18	-94
9 Mbps	20	-94	18	-93
12 Mbps	20	-93	18	-92
18 Mbps	20	-91	18	-89
24 Mbps	20	-87	18	-86
36 Mbps	20	-84	18	-83
48 Mbps	20	-79	18	-78
54 Mbps	17	-78	15	-76
802.11 HT20	Tx Power (dBm)	Rx Sensitivity (dBm)	Tx Power (dBm)	Rx Sensitivity (dBm)
MCS 0/8/16 (BPSK)	19	-95	19	-90
MCS 1/9/17 (QPSK)	19	-93	19	-87
MCS 2/10/18 (QPSK)	19	-90	19	-85
MCS 3/11/19 (16-QAM)	19	-87	19	-82
MCS 4/12/20 (16-QAM)	18	-84	19	-80
MCS 5/13/21 (64-QAM)	17	-79	19	-77
MCS 6/14/22 (64-QAM)	17	-77	19	-74
MCS 7/15/23 (64-QAM)	16	-76	16	-71
802.11 HT40	Tx Power (dBm)	Rx Sensitivity (dBm)	Tx Power (dBm)	Rx Sensitivity (dBm)
MCS 0 (BPSK)	19	-93	18	-90
MCS 1 (QPSK)	19	-90	18	-87
MCS 2 (QPSK)	19	-88	18	-85
MCS 3 (16-QAM)	19	-84	18	-82
MCS 4 (16-QAM)	18	-81	18	-79
MCS 5 (64-QAM)	17	-76	17	-73
MCS 6 (64-QAM)	17	-75	16	-72
MCS 7 (64-QAM)	16	-73	15	-73
MCS 8 (256-QAM)	-	-	15	-67
MCS 9 (256-QAM)	-	-	15	-66
802.11 HT80	Tx Power (dBm)	Rx Sensitivity (dBm)	Tx Power (dBm)	Rx Sensitivity (dBm)
MCS 0 (BPSK)	-	-	17	-87
MCS 1 (QPSK)	-	-	17	-83
MCS 2 (QPSK)	-	-	17	-81
MCS 3 (16-QAM)	-	-	16	-78
MCS 4 (16-QAM)	-	-	16	-75
MCS 5 (64-QAM)	-	-	15	-73
MCS 6 (64-QAM)	-	-	15	-70
MCS 7 (64-QAM)	-	-	15	-68
MCS 8 (256-QAM)	-	-	14	-64
MCS 9 (256-QAM)	-	-	14	-62

Maximum capability of the Hardware provided (Excluding antenna gain)

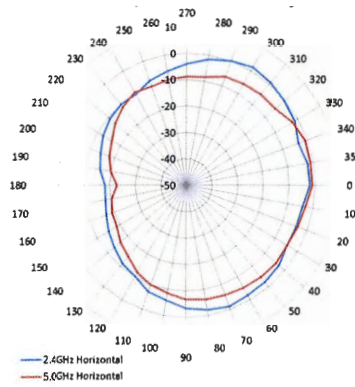


ANTENNA RADIATION PATTERNS — WALL MOUNT

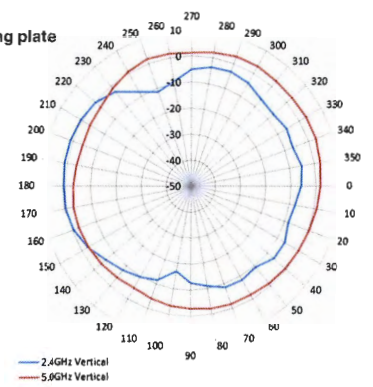
FAP-U24JEV



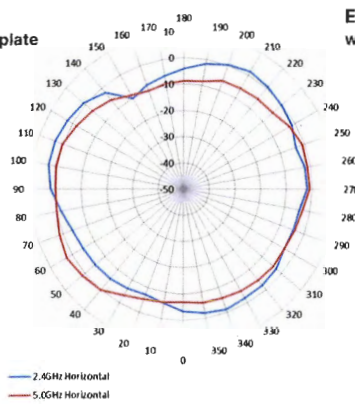
H-Plane Pattern with metal mounting plate



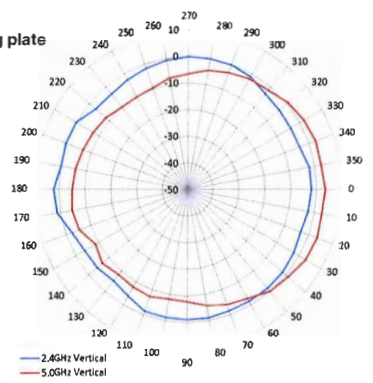
E-Plane Pattern with metal mounting plate



H-Plane Pattern without metal mounting plate



E-Plane Pattern without metal mounting plate



ORDER INFORMATION

PRODUCT	SKU	DESCRIPTION
FortiAP U431F	FAP-U431F	Indoor Wireless Universal AP - Tri radio (2x 802.11 a/b/g/n/ac/ax, 4x4 MIMO and 1x 802.11 a/b/g/n/ac Wave 2, 2x2 MU-MIMO), internal antennas, 1x 10/100/1000/2500 Base-T RJ45, 1x 10/100/1000 Base-T RJ45, BT/BLE, 1x Type A USB, 1x RS-232 RJ45 Serial Port. Ceiling/wall mount kit included. For power order: 802.3af PoE injector GPI-130 or AC adapter SP-FAP43F-PA-X-5
	FC-10-P431F-247-02-DD	24x7 FortiCare Contract
FortiAP U433F	FAP-U433F	Indoor Wireless Universal AP - Tri radio (2x 802.11 a/b/g/n/ac/ax, 4x4 MIMO and 1x 802.11 a/b/g/n/ac Wave 2, 2x2 MU-MIMO), external antennas included, 1x 10/100/1000/2500 Base-T RJ45, 1x 10/100/1000 Base-T RJ45, BT/BLE, 1x Type A USB, 1x RS-232 RJ45 Serial Port. Ceiling/wall mount kit included. For power order: 802.3af PoE injector GPI-130 or AC adapter SP-FAP43F-PA-X-5
	FC-10-P433F-247-02-DD	24x7 FortiCare Contract
FortiAP U231F	FAP-U231F	Indoor Wireless Universal AP - Tri radio (802.11 b/g/n/ax 2x2 MU-MIMO, 802.11 a/n/ac/ax 2x2 MU-MIMO and 1x 802.11 a/b/g/n/ac Wave 2, 1x1), internal antennas, 2x 10/100/1000 RJ45 port, BT/BLE, 1x Type A USB, 1x RS-232 RJ45 Serial Port. Ceiling/wall mount kit included. For power order: SP-FAP250-PAX-10.
	FC-10-P231-247-02-DD	24x7 FortiCare Contract
FortiAP U421EV	FAP-U421EV	Indoor Wireless Universal AP - Dual radio (802.11 a/b/g/n and 802.11 a/b/g/n/ac Wave 2, 4x4 MU-MIMO), internal antennas, 2 x 10/100/1000 RJ45 port. Ceiling/wall mount kit included. For power order: 802.3af PoE injector GPI-115 (limited features) or 802.3af PoE injector GPI-130 or AC adapter SP-FAP400-PA.
	FC-10-P0421-247-02-DD	24x7 FortiCare Contract
FortiAP U423EV	FAP-U423EV	Indoor Wireless Universal AP - Dual radio (802.11 a/b/g/n and 802.11 a/b/g/n/ac Wave 2, 4x4 MU-MIMO), external antennas included, 2 x 10/100/1000 RJ45 port. Ceiling/wall mount kit included. For power order: 802.3af PoE injector GPI-115 (limited features) or 802.3af PoE injector GPI-130 or AC adapter SP-FAP400-PA.
	FC-10-P0423-247-02-DD	24x7 FortiCare Contract
FortiAP U422EV	FAP-U422EV	Outdoor Wireless Universal AP - Dual radio (802.11 a/b/g/n and 802.11 a/b/g/n/ac Wave 2, 4x4 MU-MIMO), external antennas included, 2 x 10/100/1000 RJ45 port, IP67 rated. Pole/wall mount kit, ground cable, power supply included.
	FC-10-P0422-247-02-DD	24x7 FortiCare Contract
FortiAP U321EV	FAP-U321EV	Indoor Wireless Universal AP - Dual radio (802.11 a/b/g/n and 802.11 a/n/ac Wave 2, 3x3 MU-MIMO), internal antennas, 2 x 10/100/1000 RJ45 port, BT / BLE. Ceiling/wall mount kit included. For power order: 802.3af PoE injector GPI-115 (limited features) or 802.3af PoE injector GPI-130 or AC adapter SP-FAP200-PA.
	FC-10-PU321-247-02-DD	24x7 FortiCare Contract
FortiAP U323EV	FAP-U323EV	Indoor Wireless Universal AP - Dual radio (802.11 a/b/g/n and 802.11 a/n/ac Wave 2, 3x3 MU-MIMO), external antennas included, 2 x 10/100/1000 RJ45 port, BT / BLE. Ceiling/wall mount kit included. For power order: 802.3af PoE injector GPI-115 (limited features) or 802.3af PoE injector GPI-130 or AC adapter SP-FAP200-PA.
	FC-10-PU323-247-02-DD	24x7 FortiCare Contract
FortiAP U221EV	FAP-U221EV	Indoor Wireless Universal AP - Dual radio (802.11 b/g/n and 802.11a/n/ac, 2x2 MIMO), internal antennas, 1 x 10/100/1000 RJ45 port, BT / BLE. Ceiling/wall mount kit included. For power order: 802.3af PoE injector GPI-115 or AC adapter SP-FAP200-PA.
	FC-10-P221E-247-02-DD	24x7 FortiCare Contract
FortiAP U223EV	FAP-U223EV	Indoor Wireless Universal AP - Dual radio (802.11 b/g/n and 802.11a/n/ac, 2x2 MIMO), external antennas included, 1 x 10/100/1000 RJ45 port, BT / BLE. Ceiling/wall mount kit included. For power order: 802.3af PoE injector GPI-115 or AC adapter SP-FAP200-PA.
	FC-10-P223E-247-02-DD	24x7 FortiCare Contract
FortiAP U24JEV	FAP-U24JEV	Wall Plate Universal AP - Single radio [can be configured as two] (802.11 a/b/g/n/ac, 2x2 MIMO 2.4GHz/5GHz or 1x1 SISO 2.4GHz and 1x1 SISO 5GHz), internal antennas, 4 x 10/100/1000 RJ45 port (1x 802.3af PoE PD, 1x 802.3af PoE PSE, 2x Non-PoE Ports). Mounting bracket included. For power order: 802.3af PoE injector GPI-115 (limited features) or 802.3af PoE injector GPI-130 or AC adapter SP-FAPU24-PA.
	FC-10-P024E-247-02-DD	24x7 FortiCare Contract
	FAP-MNT-WJ-20	Optional desk mount.
Gigabit PoE Injector	GPI-115	1-Port Gigabit PoE Injector, 802.3af up to 12.95 W.
	GPI-130	1-Port Gigabit PoE Power Injector, 802.3af up to 30W.
Power Adapter	SP-FAP43F-PA-X-5	AC power adapter for FAP-U431F and FAP-U433F.
	SP-FAP400-PA	AC power adapter for FAP-U421EV and FAP-U423EV.
	SP-FAP200-PA	AC power adapter for FAP-U321EV, FAP-U323EV, FAP-U221EV, and FAP-U223EV.
	SP-FAPU24-PA	AC power adapter for FAP-U24JEV.
	SP-FAP250-PAX-10	AC power adapter with US and EU plugs for FAP-U231F and FAP-231F.

Additional external antenna options are available for some models. Please see the antenna datasheet for details.

Note: A country suffix code (-A, -B, -C, -D, -E, -F, -I, -J, -K, -N, -P, -S, -T, -U, -V, -W, or -Y) applies to all AP models based upon country of deployment. Work with your local supplier for the correct model in your regulatory domain.



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Thank you for considering CDW•G for your computing needs. The details of your quote are below. [Click here](#) to convert your quote to an order.

QUOTE #	QUOTE DATE	QUOTE REFERENCE	CUSTOMER #	GRAND TOTAL
LZPR964	3/18/2021	LZPR964	334905	\$66,574.56

QUOTE DETAILS				
ITEM	QTY	CDW#	UNIT PRICE	EXT. PRICE
Fortinet FortiAP U231F - wireless access point Mfg. Part#: FAP-U231F-A Contract: Standard Pricing	24	6314138	\$414.88	\$9,957.12
Fortinet FortiAP 431F - wireless access point Mfg. Part#: FAP-431F-A Contract: Standard Pricing	12	6110073	\$547.65	\$6,571.80
Fortinet FortiGate 600E - security appliance - with 3 years FortiCare 24x7 Mfg. Part#: FG-600E-BDL-811-36 Contract: Standard Pricing	2	6081491	\$17,795.46	\$35,590.92
Fortinet FortiAP 432F - wireless access point Mfg. Part#: FAP-432F-A Contract: Standard Pricing	6	6433123	\$984.72	\$5,908.32
Fortinet FortiCare 24x7 Comprehensive Support - extended service agreement Mfg. Part#: FC-10-PF432-247-02-36 Electronic distribution - NO MEDIA Contract: Standard Pricing	6	6447225	\$372.18	\$2,233.08
Fortinet FortiCare 24x7 Comprehensive Support - extended service agreement Mfg. Part#: FC-10-P231F-247-02-36 Electronic distribution - NO MEDIA Contract: Standard Pricing	24	6314141	\$162.01	\$3,888.24
Fortinet FortiCare 24x7 Comprehensive Support - extended service agreement Mfg. Part#: FC-10-F431F-247-02-36 Electronic distribution - NO MEDIA Contract: Standard Pricing	12	6132462	\$202.09	\$2,425.08

PURCHASER BILLING INFO	SUBTOTAL	\$66,574.56
Billing Address: VILLAGE OF HOFFMAN ESTATES FINANCE DEPARTMENT 1900 HASSELL RD HOFFMAN ESTATES, IL 60169-6302 Phone: (847) 882-9100 Payment Terms: Net 30 Days-Govt State/Local	SHIPPING	\$0.00
	SALES TAX	\$0.00
	GRAND TOTAL	\$66,574.56

DELIVER TO	Please remit payments to:
Shipping Address: VILLAGE OF HOFFMAN ESTATES FINANCE DEPARTMENT 1900 HASSELL RD HOFFMAN ESTATES, IL 60169-6302 Phone: (847) 882-9100 Shipping Method: DROP SHIP-GROUND	CDW Government 75 Remittance Drive Suite 1515 Chicago, IL 60675-1515

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	Jacob George		(866) 682-3510		jacogeo@cdwg.com
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LEASE OPTIONS			
FMV TOTAL	FMV LEASE OPTION	BO TOTAL	BO LEASE OPTION
\$66,574.56	\$1,784.86/Month	\$66,574.56	\$2,061.81/Month

Monthly payment based on 36 month lease. Other terms and options are available. Contact your Account Manager for details. Payment quoted is subject to change.

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- Technology Refresh. Keep current technology with minimal financial impact or risk. Add-on or upgrade during the lease term and choose to return or purchase the equipment at end of lease.
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General Terms and Conditions:

This quote is not legally binding and is for discussion purposes only. The rates are estimate only and are based on a collection of industry data from numerous sources. All rates and financial quotes are subject to final review, approval, and documentation by our leasing partners. Payments above exclude all applicable taxes. Financing is subject to credit approval and review of final equipment and services configuration. Fair Market Value leases are structured with the assumption that the equipment has a residual value at the end of the lease term.

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Item#	Qty	Mfr. Name	Description	Manufacturers Part #	Unit Price	Total
007832302-NEW	24.0	Fortinet	Fortinet FortiAP U231F - wireless access point	FAP-U231F-A	520.99	12,503.76
007950209-NEW	12.0	Fortinet	Fortinet FortiAP 431F-A - wireless access point	FAP-431F-A	642.99	7,715.88
008789863-NEW	2.0	Fortinet	Fortinet FortiGate 600E - security appliance - with 3 years FortiCare 24x7 Support + 3 years FortiGuard Enterprise Protection	FG-600E-BDL-811-36	22,754.99	45,509.98
008560347-NEW	6.0	Fortinet	Fortinet FortiAP 432F - wireless access point	FAP-432F-A	1,361.99	8,171.94
008636304-NEW	6.0	Fortinet	Fortinet FortiCare 24x7 Comprehensive Support - extended service agreement (renewal) - 3 years - shipment	FC-10-PF432-247-02-36	486.99	2,921.94
008487747-NEW	24.0	Fortinet	Fortinet FortiCare 24x7 Comprehensive Support - extended service agreement (renewal) - 3 years - shipment	FC-10-P231F-247-02-36	185.99	4,463.76
007950433-NEW	12.0	Fortinet	Fortinet FortiCare 24x7 Comprehensive Support - extended service agreement (renewal) - 3 years - shipment	FC-10-F431F-247-02-36	228.99	2,747.88

ASK US ABOUT
 Installations: Server
 Installations: General
 On-Site Technical Services
 Remote Help Desk Support
 Remote Network OS Support
 Hourly On-site Technical Service Rates

Sub-Total: \$84,035.14
 Sales Tax: \$0.00
 FedEx Ground: \$1,023.89
 Grand Total: \$85,059.03

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Recycling Fee Information: As of January 1, 2017, display devices (including monitors and laptop computers) shipping to a California address are subject to recycle fee of \$5 to \$7 per unit. These fees have been added to your quote. More details at www.Zones.com/carecycle.

IN THE EVENT THAT YOU HAVE AN AGREEMENT ("AGREEMENT") IN PLACE WITH ZONES, LLC, THAT GOVERNS THE SALE ASSOCIATED HEREWITH, SUCH AGREEMENT SHALL GOVERN; OTHERWISE THE TERMS AND CONDITIONS OF SALE SET FORTH ON THE WEB PAGE LINKED AT WWW.ZONES.COM/TERMSOFSALE ("TERMS AND CONDITIONS"), SHALL GOVERN. ZONES EXPRESSLY LIMITS THE TERMS AND CONDITIONS OF THIS SALE TO SUCH AGREEMENT OR THE TERMS AND CONDITIONS, AS APPLICABLE, AND ZONES EXPRESSLY OBJECTS TO, DISCLAIMS, AND REJECTS ANY DIFFERENT OR ADDITIONAL TERMS SET FORTH IN ANY OF CUSTOMER'S DOCUMENTS OR COMMUNICATIONS. ZONES EXPRESSLY DISCLAIMS ALL EXPRESS AND IMPLIED WARRANTIES.



We appreciate this opportunity to earn your business, and look forward to serving you soon! Thank you!



SCW

Southern Computer Warehouse
 1395 S. Marietta Parkway | Building 300-106
 Marietta, CA 30067
 (P) 877-468-6729
 (F) 770-579-8937
 SCW.com

Quote # 100298984 - Fortinet
 Cust #: VH4493 (Village of Hoffman Estates IL)
 Quote Date: Apr 15, 2021

Sold to:	Ship to:
Fred Besenhoffer Village of Hoffman Estates 1900 Hassell Hoffman Estates, Illinois, 60169 T: 847-781-4877 Fred.Besenhoffer@hoffmanestates.org	Fred Besenhoffer Village of Hoffman Estates 1900 Hassell Hoffman Estates, Illinois, 60169 T: 847-781-4877 Fred.Besenhoffer@hoffmanestates.org
Payment Method	Shipping Method:Free Shipping
No Payment Information Required	Free Shipping (Total Shipping Charges \$0.00)

Notes: Good morning Fred! Here is the updated quote you requested with the new parts and the pricing Fortinet provided me. Please let me know if you have any questions, or if I can do anything else to help otherwise. . . Thanks, . Travis

#	Products	SKU	Price	Qty	Subtotal
1	Fortinet FortiAP U231F - Wireless access point - ZigBee, 802.11ac Wave 2, 802.11ax - Bluetooth, ZigBee, Wi-Fi - 2.4 GHz, 5 GHz	FTN-FAP-U231F-A	\$541.50	24	\$12,996.00
2	Fortinet FortiCare 24x7 Comprehensive Support - Extended service agreement (renewal) - advance parts replacement - 3 years - shipment - response time: NBD	FTN-FC-10-P231F-2 47-02-36	\$182.76	24	\$4,386.24
3	Fortinet FortiAP FAP-431F 802.11ax Wireless Access Point - 2.40 GHz, 5 GHz - MIMO Technology - 2 x Network (RJ-45) - 2.5 Gigabit Ethernet, Gigabit Ethernet - Ceiling Mountable, Wall Mountable FAP-431F-A	FTN-FAP-431F-A	\$666.46	12	\$7,997.52

#	Products	SKU	Price	Qty	Subtotal
4	Fortinet FortiCare 24x7 Comprehensive Support - Extended service agreement (renewal) - advance parts replacement - 3 years - shipment - response time: NBD	FTN-FC-10-F431F-2 47-02-36	\$224.93	12	\$2,699.16
5	Fortinet FortiAP 432F - Wireless access point - ZigBee, 802.11ac Wave 2, 802.11ax - Bluetooth, ZigBee, Wi-Fi - 2.4 GHz, 5 GHz	FTN-FAP-432F-A	\$1,416.22	6	\$8,497.32
6	Fortinet FortiCare 24x7 Comprehensive Support - Extended service agreement (renewal) - advance parts replacement - 3 years - shipment - response time: NBD	FTN-FC-10-PF432-2 47-02-36	\$477.98	6	\$2,867.88
7	Fortinet FortiGate FG-600E Network Security/Firewall Appliance - 10 Port - 1000Base-T, 10GBase-X, 1000Base-X - 10 Gigabit Ethernet - SHA-256, AES (256-bit) - 5000 VPN - 9 x RJ-45 - 10 Total Expansion Slots - 3 Year 24x7 Forticare - 1U - Rack-mountable	FTN-FG-600E-BDL-8 11-36	\$26,129.33	2	\$52,258.66

Subtotal: \$91,702.78
 Tax: \$0.00
Grand Total (Incl. Tax): \$91,702.78

Thank you for your order. We value your business and will continue to provide you excellent service in addition to our comprehensive product line. All returns must be authorized and clearly marked with a valid RMA number. Returns are subject to restock fees when applicable.

Quotes are valid for 30-days unless otherwise noted.

IMPORTANT NOTE: Stock levels and pricing fluctuations related to COVID19 are expected to persist through Q2 2020. As we navigate these unprecedented circumstances we ask for your continued patience and support. Rest assured that our commitment to communication and customer-first service is still top priority. Thank you, and stay safe!
 Travis Dilg | Public Sector Account Manager
 SCW | 1395 S. Marietta Parkway | Building 300-106 | Marietta, GA 30067
 877.GOTOSCW | Local 770.579.8927 Ext 286 | Fax 770.579.8937

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Pricing Proposal

Quotation #:	20335370
Description:	Wireless Project Reference Price
Created On:	Apr-14-2021
Valid Until:	Apr-30-2021

Village of Hoffman Estates

Fred Besenhoffer

1900 Hassell Rd
Hoffman Estates

IL
60159

US
Phone:

Fax:
Email: Fred.Besenhoffer@hoffmanestates.org

[Click here to order this quote](#)

All Prices are in US Dollar(USD)

Product	Qty	Your Price	Total
1 Fortinet FortiGate 600E - security appliance - with 3 years FortiCare 24X7 Support + 3 years FortiGuard Enterprise Prot... Fortinet - Part#: FG-600E-BDL-811-36 Contract Name: Catalog Pricing	2	\$23,478.64	\$46,957.28
2 Fortinet FortiAP U231F - wireless access point Fortinet - Part#: FAP-U231F-A Contract Name: Catalog Pricing	24	\$453.95	\$10,894.80
3 Fortinet FortiAP 431F-A - wireless access point Fortinet - Part#: FAP-431F-A Contract Name: Catalog Pricing	12	\$673.71	\$8,084.52
4 Fortinet FortiAP 432F - wireless access point Fortinet - Part#: FAP-432F-A Contract Name: Catalog Pricing	6	\$1,431.62	\$8,589.72
		Subtotal	\$74,526.32
		Shipping	\$55.15
		Total	\$74,581.47

The Products offered under this proposal are resold in accordance with the [SHI Online Customer Resale Terms and Conditions](#), unless a separate resale agreement exists between SHI and the Customer.

**COMMITTEE AGENDA ITEM
VILLAGE OF HOFFMAN ESTATES**

SUBJECT: Request authorization to renew the Central Square Annual Subscription Agreement between Superior, LLC, a Central Square Technology Company, a Delaware Limited Liability Company with its principal place of business in Lake Mary, FL ("**CentralSquare**") and the Village of Hoffman Estates, IL (Customer) for a term of one year at a subscription cost of \$172,016.56

MEETING DATE: April 26, 2021

COMMITTEE: Finance Committee

FROM: Fred Besenhoffer, Director of Information Systems

PURPOSE: To Application Service Provider Agreement (ASP) with Superior, LLC.

BACKGROUND The original contract with SunGard Public Sector was for a term of 60 months and signed in 2011. After the 60 month term the contract was provisioned (the contract) to roll over on a yearly basis.

In 2017 SunGard was acquired by Vista Equity Partners and renamed/rebranded Superior, LLC. Superior immediately began to implement a new business plan which centered relocating customer data to a new data center in New Jersey their support center to Florida.

DISCUSSION The Village is heavily vested in the Superior ERP software application suite and continues to implement and refine these applications as an electronic alternative to our current methods of tracking activities and processes manually with spreadsheets or paper records. Future plans include upgrading our current Superior applications to their next generation of software replacements in coordination with the approval processes of the Village.

The new contract provides us with a set of tangible Service Level Agreements that include guarantees on system availability, system performance, Emergency Maintenance, Incident response, performance targets and monetary recompense if the targets are not met.

04/01/2021 - 03/31/2022	Applications and/or Services
Renewal Services	
Existing PLUS Products (Currently Licensed)	PLUS Alarm Billing, PLUS Business Licensing, PLUS Code Enforcement, PLUS Citations, PLUS Central Receipting, PLUS eGOV Alarm Billing, PLUS eGOV Business License , PLUS eGOV Code Enforcement, PLUS eGOV Inspections, PLUS eGOV Inspector Portal, PLUS eGOV Miscellaneous Billing, PLUS eGOV Core, PLUS eGOV Pet License, PLUS eGOV Permits, PLUS eGOV Utility Billing, PLUS eGOV Vehicle License, PLUS eGOV Web Payments, PLUS Fire & Safety Inspections, PLUS Miscellaneous Billing, PLUS Miscellaneous Licensing, PLUS Pet Licensing, PLUS Permitting, PLUS Utility Billing PLUS Vehicle Licensing, PLUS Employee Benefits, PLUS Budget Preparation, PLUS Financial Accounting, PLUS Human Resources, PLUS Zoning & Development, PLUS Workflow Center, PLUS Community Workflow Center, PLUS Fixed Asset, PLUS Employee Access Center
Exiting Third Party Products (Currently Licensed)	Optio ECI Four Js Compiler Four Js Concurrent User License (45 User) BI Analytics PLUS Multi-Data Source (Cognos 8)
Horizon Cloud Services	Hardware and software will be managed by Superior. Site to Site VPN, Disaster Recovery Plan for Superior Products

FINANCIAL IMPACT

This request renews the Central Square Annual Subscription Agreement with Superior, LLC for one year at the new subscription cost of \$172,016.56.

RECOMMENDATION

To renew the Central Square Annual Subscription Agreement between Superior, LLC, a Central Square Technology Company, a Delaware Limited Liability Company with its principal place of business in Lake Mary, FL ("**Central Square**") and the Village of Hoffman Estates, IL (Customer) for a term of one year at a subscription cost of \$172,016.56

CentralSquare Annual Subscription Agreement

This CentralSquare Support and Maintenance Agreement (the "**Agreement**"), effective as of the latest date shown on the signature block below (the "**Effective Date**"), is entered into between **Superion, LLC, a CentralSquare Technologies company**, a Delaware Limited Liability Company with its principal place of business in Lake Mary, FL ("**CentralSquare**") and the **Village of Hoffman Estates, Illinois ("Customer")**, together with CentralSquare, the "**Parties**", and each, a "**Party**".

WHEREAS, CentralSquare licenses and gives access to certain software applications ("**Solutions**") to its customers and also provides maintenance, support, migration, installation and other professional services; and

WHEREAS, Customer desires to license and/or gain access to certain Solutions and receive professional services described herein, and CentralSquare desires to grant and provide Customer license and access to such offerings as well as to support them with professional services, subject to the terms and conditions set forth in this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants, terms, and conditions set forth herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, by the signatures of their duly authorized representative below, the Parties intending to be legally bound, agree to all of the following provisions and exhibits of this Agreement:

Superion, LLC	Village of Hoffman Estates, IL
1000 Business Center Dr. Lake Mary, FL 32746	1900 Haccell Road Hoffman Estates, IL 60169
By:	By:
Print Name:	Print Name:
Print Title:	Print Title:
Date Signed:	Date Signed:

1. Solution: Community Development

2. Term.

- 2.1. Initial Term. The Initial Term of this Agreement commences as of the Effective Date and will continue in effect for One (1) year from such date unless terminated earlier pursuant to any of the Agreement's express provisions (the "**Initial Term**").
- 2.2. Renewal Term. This Agreement will automatically renew for additional successive one (1) year terms unless earlier terminated pursuant to any of the Agreement's provisions (a "**Renewal Term**" and, collectively, with the Initial Term, the "**Term**").
- 2.3. Non-Renewal. Either party may elect to end renewal of the contract by issuing a notice of non-renewal, in writing, to the other party six (6) months prior to the expiration of the current contract term.

3. Fees. In consideration of the rights and services granted by CentralSquare to Customer under this Agreement, Customer shall make payments to CentralSquare pursuant to the amounts and payment terms outlined in Exhibit 1 (the "**Project Cost Summary**").

4. Definitions. Capitalized terms not otherwise defined in this Agreement have the meanings set forth below:

- 4.1. "**Action**" means any claim, action, cause of action, demand, lawsuit, arbitration, inquiry, audit, notice of violation, proceeding, litigation, citation, summons, subpoena, or investigation of any nature, civil, criminal, administrative, regulatory or other, whether at law, in equity, or otherwise.
- 4.2. "**Affiliate**" of a Person means any other Person that directly or indirectly, through one or more intermediaries, controls, is controlled by, or is under common control with, such Person.
- 4.3. "**Authorized User**" means Customer's employees, consultants, contractors, and agents who are authorized by Customer to access and use the Solutions under the rights granted to Customer pursuant to this Agreement, and for whom access to the Solutions has been purchased.

- 4.4. "**Baseline**" means the version of a Solution updated to the particular time in question through CentralSquare's warranty services and maintenance, but without any other modification whatsoever.
- 4.5. "**Component System**" means any one of the Solutions identified in Exhibit 1, including all copies of Source Code, Object Code and all related specifications, Documentation, technical information, and all corrections, modifications, additions, development work, improvements and enhancements to and all Intellectual Property Rights for such Component System.
- 4.6. "**Customer Data**" means information, data, and content, in any form or medium, collected, downloaded, or otherwise received, directly or indirectly from Customer, an Authorized User or end-users by or through the Solutions, provided the data is not personally identifiable and not identifiable to Customer.
- 4.7. "**Custom Modification**" means a change that CentralSquare has made at Customer's request to any Component System in accordance with a CentralSquare-generated specification, but without any other changes whatsoever by any Person.
- 4.8. "**Customer Systems**" means the Customer's information technology infrastructure, including computers, software, hardware, databases, electronic systems (including database management systems), and networks, whether operated by Customer or through the use of third-party services.
- 4.9. "**Defect**" means a material deviation between the Baseline Solution and its Documentation, for which Defect Customer has given CentralSquare enough information to enable CentralSquare to replicate the deviation on a computer configuration that is both comparable to the Customer Systems and that is under CentralSquare's control. Further, with regard to each Custom Modification, Defect means a material deviation between the Custom Modification and the CentralSquare generated specification and documentation for such Custom Modification, and for which Defect Customer has given CentralSquare enough information to enable CentralSquare to replicate the deviation on a computer configuration that is both comparable to the Customer Systems and that is under CentralSquare's control.
- 4.10. "**Documentation**" means any manuals, instructions, or other documents or materials that CentralSquare provides or makes available to Customer in any form or medium and which describe the functionality, components, features, or requirements of the Solutions, including any aspect of the installation, configuration, integration, operation, use, support, or maintenance thereof.
- 4.11. "**Enhancements**" means general release (as opposed to custom) changes to a Baseline Component System or Custom Modification which increase the functionality of the Baseline Component System or Custom Modification in question.
- 4.12. "**Harmful Code**" means any software, hardware, device or other technology, including any virus, worm, malware, or other malicious computer code, the purpose or effect of which is to (a) permit unauthorized access to, or to destroy, disrupt, disable, distort, or otherwise harm or impede any (i) computer, software, firmware, hardware, system, or network; or (ii) any application or function of any of the foregoing or the security, integrity, confidentiality, or use of any data Processed thereby; or (b) prevent Customer or any Authorized User from accessing or using the Solutions as intended by this Agreement.
- 4.13. "**Intellectual Property Rights**" means any and all registered and unregistered rights granted, applied for, or otherwise now or hereafter in existence under or related to any patent, copyright, trademark, trade secret, database protection, or other intellectual property rights laws, and all similar or equivalent rights or forms of protection, in any part of the world.
- 4.14. "**Maintenance**" means optimization, error correction, modifications, and updates to CentralSquare Systems to correct any known Defects and improve performance. Maintenance will be provided for each Component System, the hours and details of which are described in Exhibit 2 ("**Support Standards**").
- 4.15. "**New Releases**" means new editions of a Baseline Component System or Custom Modification.
- 4.16. "**Person**" means an individual, corporation, partnership, joint venture, limited liability entity, governmental authority, unincorporated organization, trust, association, or other entity.
- 4.17. "**Personal Information**" means any information that does or can identify a specific individual or by or from which a specific individual may be identified, contacted, or located. Personal Information includes all "nonpublic personal information" as defined under the Gramm-Leach-Bliley Act, "protected health information" as defined under the Health and Insurance Portability and Accountability Act of 1996, "Personal Data" as defined in the EU General Data Protection Regulation (GDPR 2018), "Personal Information" as defined under the Children's Online Privacy Protection Act of 1998, and all rules and regulations issued under any of the foregoing.

- 4.18. "**Professional Services**" means installation, implementation, development work, training or consulting services including custom modification programming, support relating to custom modifications, on-site support services, assistance with data transfers, system restarts and reinstallations provided by CentralSquare.
 - 4.19. "**Representatives**" means, with respect to a Party, that Party's employees, officers, directors, agents, subcontractors, and legal advisors.
 - 4.20. "**CentralSquare Personnel**" means all individuals involved in the performance of Support Services and Professional Services as employees, agents, Subcontractors or independent contractors of CentralSquare.
 - 4.21. "**Solutions**" means the Component Systems, Documentation, Custom Modifications, development work, CentralSquare Systems and any and all other information, data, documents, materials, works, and other content, devices, methods, processes, hardware, software, technologies and inventions, including any deliverables, technical or functional descriptions, requirements, plans, or reports, provided or used by CentralSquare or any Subcontractor in connection with Professional Services or Support Services rendered under this Agreement.
 - 4.22. "**CentralSquare Systems**" means the information technology infrastructure used by or on behalf of CentralSquare to deliver Solutions, including all computers, software, hardware, databases, electronic systems (including database management systems), and networks, whether operated directly by CentralSquare or through the use of third-party services.
 - 4.23. "**Support Services**" means Maintenance, Enhancements, implementation of New Releases, and general support efforts to respond to incidents reported by Customer in accordance with the detailed Support Standards outlined in Exhibit 2.
 - 4.24. "**Third-Party Materials**" means materials and information, in any form or medium, including any software, documents, data, content, specifications, products, related services, equipment, or components of or relating to the Solutions that are not proprietary to CentralSquare.
- 5. Use Restrictions.** Customer shall not, and shall not permit any other Person to, access or use the Solutions except as expressly permitted by this Agreement. For purposes of clarity and without limiting the generality of the foregoing, Customer shall not, except as this Agreement expressly permits:
- 5.1. copy, modify, or create derivative works or improvements of the Solutions, or rent, lease, lend, sell, sublicense, assign, distribute, publish, transfer, or otherwise make available any Solutions to any Person, including on or in connection with the internet or any time-sharing, service bureau, software as a service, cloud, or other technology or service;
 - 5.2. reverse engineer, disassemble, decompile, decode, adapt, or otherwise attempt to derive or gain access to the source code of the Solutions, in whole or in part;
 - 5.3. bypass or breach any security device or protection used by Solutions or access or use the Solutions other than by an Authorized User through the use of his or her own then valid access;
 - 5.4. input, upload, transmit, or otherwise provide to or through the CentralSquare Systems, any information or materials that are unlawful or injurious, or contain, transmit, or activate any Harmful Code;
 - 5.5. damage, destroy, disrupt, disable, impair, interfere with, or otherwise impede or harm in any manner the CentralSquare Systems, or CentralSquare 's provision of services to any third-party, in whole or in part;
 - 5.6. remove, delete, alter, or obscure any trademarks, Specifications, Documentation, warranties, or disclaimers, or any copyright, trademark, patent, or other intellectual property or proprietary rights notices from any Documentation or Solutions, including any copy thereof;
 - 5.7. access or use the Solutions in any manner or for any purpose that infringes, misappropriates, or otherwise violates any Intellectual Property Right or other right of any third-party, or that violates any applicable law;
 - 5.8. access or use the Solutions for purposes of competitive analysis of the Solutions, the development, provision, or use of a competing software service or product or any other purpose that is to CentralSquare 's detriment or commercial disadvantage or otherwise access or use the Solutions beyond the scope of the authorization granted under this Section.
- 6. Customer Obligations.**
- 6.1. Customer Systems and Cooperation. Customer shall at all times during the Term: (a) set up, maintain, and operate in good repair all Customer Systems on or through which the Solutions are accessed or used; (b) provide CentralSquare Personnel with such access to Customer's premises and Customer

Systems as is necessary for CentralSquare to perform the Support Services in accordance with the Support Standards and Specifications; and (c) provide all cooperation as CentralSquare may reasonably request to enable CentralSquare to exercise its rights and perform its obligations under and in connection with this Agreement.

- 6.2. Effect of Customer Failure or Delay. CentralSquare is not responsible or liable for any delay or failure of performance caused in whole or in part by Customer's delay in performing, or failure to perform, any of its obligations under this Agreement.
- 6.3. Corrective Action and Notice. If Customer becomes aware of any actual or threatened activity prohibited by Section 5, Customer shall, and shall cause its Authorized Users to, immediately: (a) take all reasonable and lawful measures within their respective control that are necessary to stop the activity or threatened activity and to mitigate its effects (including, where applicable, by discontinuing and preventing any unauthorized access to the Solutions and permanently erasing from their systems and destroying any data to which any of them gained unauthorized access); and (b) notify CentralSquare of any such actual or threatened activity.

7. Professional Services.

- 7.1. Compliance with Customer Policies. While CentralSquare Personnel are performing services at Customer's site, CentralSquare will ensure that such personnel comply with Customer's reasonable security procedures and site policies that are generally applicable to Customer's other suppliers providing similar services and that have been provided to CentralSquare in writing or in advance. Customer shall promptly reimburse CentralSquare for any out-of-pocket costs incurred in complying with such procedures and policies.
- 7.2. Contributed Material. In the process of CentralSquare's performing Professional Services, Customer may, from time to time, provide CentralSquare with designs, plans, or specifications, improvements, works or other material for inclusion in, or making modifications to, the Solutions, the Documentation or any other deliverables ("**Contributed Material**"). Customer grants to CentralSquare a nonexclusive, irrevocable, perpetual, transferable right, without the payment of any royalties or other compensation of any kind and without the right of attribution, for CentralSquare, CentralSquare's Affiliates and CentralSquare's licensees to make, use, sell and create derivative works of the Contributed Material.

8. Confidentiality. Confidential Information. Each Party possesses certain non-public proprietary information, which has economic value and is protected with reasonable safeguards to maintain its secrecy ("**Confidential Information**"). Confidential Information may include, but is not limited to any financial data, business and other plans, specifications, equipment designs, electronic configurations, design information, product architecture algorithms, quality assurance plans, inventions (whether or not the subject of pending patent applications), ideas, discoveries, formulae, models, requirements, standards, trade and manufacturing secrets, drawings, samples, devices, demonstrations, technical information, as well as any and all intellectual and industrial property rights contained therein or in relation thereto. CentralSquare shall own the copyrights, trade secrets, patent rights and other proprietary rights in and may use without restriction knowledge, information, ideas, methods, know-how, and copyrightable expression learned or acquired. Confidential Information will be disclosed either: (i) in writing and conspicuously marked with a restrictive legend identifying it as being a Party's Confidential Information; or (ii) orally or visually and identified at the time of disclosure as Confidential Information and subsequently confirmed in writing by the disclosing Party within fifteen (15) days after such disclosure specifically identifying that portion of information that is Confidential Information. Customer shall not sell, transfer, publish, disclose or otherwise make available any portion of the Software or its associated documentation to others. Customer shall use its reasonable best efforts to cooperate with and assist CentralSquare in identifying and preventing any unauthorized use, copying or disclosure of the Software or any portion thereof or any of the algorithms or logic contained therein or any other deliverables.

- 8.1. Compelled Disclosures. If the either Party or any of its Representatives is compelled by applicable law to disclose any Confidential Information then, to the extent permitted by law, that Party shall: (a) promptly, and prior to such disclosure, notify the other Party in writing of such requirement so that they can seek a protective order or other remedy or waive its rights under Section .3; and (b) provide reasonable assistance to the Disclosing Party in opposing such disclosure or seeking a protective order or other limitations on disclosure. If the Disclosing Party waives compliance or, after providing the notice and assistance required under this Section, the Receiving Party remains required by law to disclose any Confidential Information, the Receiving Party shall disclose only that portion of the Confidential Information that the Receiving Party is legally required to disclose.

- 8.2. Upon expiration or termination of this Agreement, or upon demand by CentralSquare, Customer shall (i) return to CentralSquare all copies of CentralSquare's Confidential Information in Customer's possession or under CentralSquare's control, or (ii) destroy all copies of CentralSquare's Confidential Information in Customer's possession and so certify such destruction to CentralSquare in writing. Notwithstanding the foregoing, Customer may retain data or records in electronic form containing Confidential Information for the purposes of backup, recovery, contingency planning, or business continuity planning, so long as such data or records, to the extent not permanently deleted or overwritten in the ordinary course of business, are not accessible in the ordinary course of business and are not accessed except as required by Customer only for backup, recovery, contingency planning, or business continuity purposes.

9. Security.

- 9.1. CentralSquare will implement commercially reasonable administrative, technical and physical safeguards designed to ensure the security and confidentiality of Customer Data, protect against any anticipated threats or hazards to the security or integrity of Customer Data, and protect against unauthorized access or use of Customer Data. CentralSquare will review and test such safeguards on no less than an annual basis.
- 9.2. Customer shall maintain, in connection with the operation or use of the Solutions, adequate technical and procedural access controls and system security requirements and devices, necessary for data privacy, confidentiality, integrity, authorization, authentication and non-repudiation and virus detection and eradication.
- 9.3. To the extent that Authorized Users are permitted to have access to the Solutions, Customer shall maintain agreements with such Authorized Users that adequately protect the confidentiality and Intellectual Property Rights of CentralSquare in the Solutions and Documentation, and disclaim any liability or responsibility of CentralSquare with respect to such Authorized Users.

10. Personal Data. If CentralSquare processes or otherwise has access to any personal data or personal information on Customer's behalf when performing CentralSquare's obligations under this Agreement, then:

- 10.1. Customer shall be the data controller (where "**data controller**" means an entity which alone or jointly with others determines purposes for which and the manner in which any personal data are, or are to be, processed) and CentralSquare shall be a data processor (where "**data processor**" means an entity which processes the data only on behalf of the data controller and not for any purposes of its own);
- 10.2. Customer shall ensure that it has obtained all necessary consents and it is entitled to transfer the relevant personal data or personal information to CentralSquare so that CentralSquare may lawfully use, process and transfer the personal data and personal information in accordance with this Agreement on Customer's behalf, which may include CentralSquare processing and transferring the relevant personal data or personal information outside the country where Customer and the Authorized Users are located in order for CentralSquare to provide the Solutions and perform its other obligations under this Agreement; and
- 10.3. CentralSquare shall process personal data and information only in accordance with lawful and reasonable instructions given by Customer and as set out in and in accordance with the terms of this Agreement; and
- 10.4. each Party shall take appropriate technical and organizational measures against unauthorized or unlawful processing of the personal data and personal information or its accidental loss, destruction or damage so that, having regard to the state of technological development and the cost of implementing any measures, the measures taken ensure a level of security appropriate to the harm that might result from such unauthorized or unlawful processing or accidental loss, destruction or damage in relation to the personal data and personal information and the nature of the personal data and personal information being protected. If necessary, the parties will cooperate to document these measures taken.

11. Representations and Warranties.

- 11.1. **LIMITED WARRANTY.** CentralSquare warrants that it owns or otherwise has the rights in the Software and has the right to license the Software as described in this Agreement. CentralSquare further warrants and represents that the CentralSquare Software does not contain any "back door", "time bomb", "Trojan horse", "worm", "drop dead device" or other program routine or hardware device inserted and intended by CentralSquare to provide a means of unauthorized access to, or a means of disabling or erasing any

computer program or data, or otherwise disabling the CentralSquare Software. Nothing herein shall be deemed to constitute a warranty against viruses. The provisions of section and its subsections below, shall constitute the agreement of the Parties with respect to viruses. Customer's sole remedy with respect to the foregoing warranty shall be to receive an Update to the CentralSquare Software that does not contain any of the above-described routines or devices.

11.2. **DISCLAIMER OF WARRANTY.** EXCEPT FOR THE EXPRESS LIMITED WARRANTY SET FORTH ABOVE, CENTRALSQUARE MAKES NO WARRANTIES WHATSOEVER, EXPRESSED OR IMPLIED, WITH REGARD TO THE SOLUTIONS, PROFESSIONAL SERVICES, SUPPORT SERVICES, AND/OR ANY OTHER MATTER RELATING TO THIS AGREEMENT, AND THAT CENTRALSQUARE DISCLAIMS ALL WARRANTIES, WHETHER EXPRESS, IMPLIED, STATUTORY, OR OTHER, INCLUDING ALL WARRANTIES ARISING FROM COURSE OF DEALING, USAGE OR TRADE PRACTICE, AND SPECIFICALLY DISCLAIMS IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, AND NON-INFRINGEMENT. FURTHER, CENTRALSQUARE EXPRESSLY DOES NOT WARRANT THAT A SOLUTION, ANY CUSTOM MODIFICATION OR ANY IMPROVEMENTS WILL BE USABLE BY CUSTOMER IF THE SOLUTION OR CUSTOM MODIFICATION HAS BEEN MODIFIED BY ANYONE OTHER THAN CENTRALSQUARE PERSONNEL, OR WILL BE ERROR FREE, WILL OPERATE WITHOUT INTERRUPTION OR WILL BE COMPATIBLE WITH ANY HARDWARE OR SOFTWARE TO THE EXTENT EXPRESSLY SET FORTH IN THE DOCUMENTATION. ALL THIRD-PARTY MATERIALS ARE PROVIDED "AS-IS" AND ANY REPRESENTATION OR WARRANTY OF OR CONCERNING ANY OF THEM IS STRICTLY BETWEEN CUSTOMER AND THE THIRD-PARTY OWNER. THIS AGREEMENT DOES NOT AMEND, OR MODIFY CENTRALSQUARE'S WARRANTY UNDER ANY AGREEMENT OR ANY CONDITIONS, LIMITATIONS, OR RESTRICTIONS THEREOF.

12. **Notices.** All notices and other communications required or permitted under this Agreement must be in writing and will be deemed given when delivered personally, sent by United States registered or certified mail, return receipt requested; transmitted by facsimile or email confirmed by United States first class mail, or sent by overnight courier. Notices must be sent to a Party at its address shown below, or to such other place as the Party may subsequently designate for its receipt of notices in writing by the other Party.

If to CentralSquare : **CentralSquare**
1000 Business Center Dr.
Lake Mary, FL 32746
Phone: 407-304-3235 **email: info@CentralSquare.com**
Attention: Senior Counsel / Contracts Department

If to Customer: **Village of Hoffman Estates, IL**
[INSERT CUSTOMER ADDRESS]
[ADDRESS LINE 2]
Phone: *customer to supply **email: *customer to supply**
Attention: *customer to supply POC

13. **Force Majeure.** Neither Party shall be responsible for failure to fulfill its obligations hereunder or liable for damages resulting from delay in performance as a result of war, fire, strike, riot or insurrection, natural disaster, delay of carriers, governmental order or regulation, complete or partial shutdown of plant, unavailability of Equipment, software, or services from suppliers, default of a subcontractor or vendor to the Party if such default arises out of causes beyond the reasonable control of such subcontractor or vendor, the acts or omissions of the other Party, or its officers, directors, employees, agents, contractors, or elected officials, and/or other occurrences beyond the Party's reasonable control ("Excusable Delay" hereunder). In the event of such Excusable Delay, performance shall be extended on a day for day basis or as otherwise reasonably necessary to compensate for such delay.

14. **Indemnification.**

14.1. **CentralSquare Indemnification.** CentralSquare shall indemnify, defend, and hold harmless Customer from any and all claims, lawsuits or liability, including attorneys' fees and costs, allegedly arising out of, in connection with, or incident to any loss, damage or injury to persons or property or arising solely from a wrongful or negligent act, error or omission of CentralSquare, its employees, agents, contractors, or any subcontractor as a result of CentralSquare's or any subcontractor's performance pursuant to this Agreement; however, CentralSquare shall not be required to indemnify Customer for any claims or actions caused to the extent of the negligence or wrongful act of Customer, its employees, agents, or

contractors. Notwithstanding anything to the contrary in the foregoing, if a claim, lawsuit or liability results from or is contributed to by the actions or omissions of Customer, or its employees, agents or contractors, CentralSquare's obligations under this provision shall be reduced to the extent of such actions or omissions based upon the principle of comparative fault.

14.2. Customer Indemnification. Customer shall indemnify, defend, and hold harmless CentralSquare from any and all claims, lawsuits or liability, including attorneys' fees and costs, allegedly arising out of, in connection with, or incident to any loss, damage or injury to persons or property or arising solely from a wrongful or negligent act, error or omission of Customer, its employees, agents, contractors, or any subcontractor as a result of Customer's or any subcontractor's performance pursuant to this Agreement; however, Customer shall not be required to indemnify CentralSquare for any claims or actions caused to the extent of the negligence or wrongful act of CentralSquare, its employees, agents, or contractors. Notwithstanding anything to the contrary in the foregoing, if a claim, lawsuit or liability results from or is contributed to by the actions or omissions of CentralSquare, or its employees, agents or contractors, Customer's obligations under this provision shall be reduced to the extent of such actions or omissions based upon the principle of comparative fault.

14.3. Sole Remedy. THIS SECTION SETS FORTH CUSTOMER'S SOLE REMEDIES AND CENTRALSQUARE 'S SOLE LIABILITY AND OBLIGATION FOR ANY ACTUAL, THREATENED, OR ALLEGED CLAIMS THAT THE SERVICES AND SOLUTIONS OR ANY SUBJECT MATTER OF THIS AGREEMENT INFRINGES, MISAPPROPRIATES, OR OTHERWISE VIOLATES ANY INTELLECTUAL PROPERTY RIGHTS OF ANY THIRD-PARTY.

15. Termination. This Agreement may be terminated:

- 15.1. For cause by either Party, effective on written notice to the other Party, if the other Party materially breaches this Agreement and: (i) is incapable of cure; or (ii) being capable of cure, remains uncured thirty (30) days after the non-breaching Party provides the breaching Party with written notice of such breach.
- 15.2. For lack of payment by written notice to Customer, if Customer's failure to pay amounts due under this Agreement has continued more than ninety (90) days after delivery of written notice of non-payment.

16. Effect of Termination or Expiration. On the expiration or earlier termination of this Agreement:

- 16.1. Upon the expiration or earlier termination of this Agreement, each Party shall continue to hold such Confidential Information in confidence pursuant to Section 9; and
- 16.2. Upon the expiration of this Agreement, each Party shall pay to the other all amounts accrued prior to and through the date of termination of this Agreement.

17. Assignment. Neither this Agreement nor any rights or obligations hereunder shall be assigned or otherwise transferred by either Party without the prior written consent of the other Party, which consent will not be unreasonably withheld; provided however, that in the event of a merger or acquisition of all or substantially all of CentralSquare's assets, CentralSquare may assign this Agreement to an entity ready, willing and able to perform CentralSquare's executory obligations hereunder, as evidenced by an express written assumption of the obligations hereunder by the assignee.

18. Dispute Resolution. Any dispute, controversy or claim arising out of or relating to this Agreement, including the breach, termination, or validity thereof, shall be resolved by final and binding arbitration.

18.1. Exclusive Dispute Resolution Mechanism. The Parties agree to resolve any dispute, controversy, or claim arising out of or relating to this Agreement (each, a "Dispute"), exclusively under the provisions of this Section. Either Party may seek interim or provisional relief in any court of competent jurisdiction if necessary, to protect the rights or property of that Party pending the appointment of the arbitrator or pending the arbitrator's determination of the merits of the dispute.

18.2. Good Faith Negotiations. The Parties agree to send written notice to the other Party of any Dispute ("Dispute Notice"). After the other Party receives the Dispute Notice, the parties agree to undertake good faith negotiation between themselves to resolve the Dispute. Each Party shall be responsible for its associated travel costs. The parties agree to attend no fewer than three negotiation sessions attended Vice Presidents of each Party (or employees of equivalent or superior position).

18.3. Escalation to Mediation. If the Parties cannot resolve any Dispute during the good faith negotiations either Party must initiate mediation under Section 18.4.

18.4. Mediation. Subject to Sections 18.2 and 18.3, the Parties may escalate a Dispute to a mutually agreed

to mediator. Parties agree to act in good faith in selecting a neutral mediator and in scheduling the mediation proceedings. The parties agree to use commercially reasonable efforts in participating in the mediation. The parties agree the mediator's fees and expenses, and the mediator's costs incidental to the mediation will be shared equally between the parties. The parties shall bear their own fees, expenses, and costs.

18.5. **Confidential Mediation.** The Parties further agree all written or oral offers, promises, conduct, and statements made in the course of the mediation are confidential, privileged, and inadmissible for any purpose in any litigation, arbitration or other proceeding involving the Parties. However, evidence that is otherwise admissible or discoverable shall not be rendered inadmissible or non-discoverable as a result of its use in the mediation.

18.6. **Litigation or Arbitration as a Final Resort.** If the Parties cannot resolve a Dispute through mediation, then once an impasse is issued by the mediator either Party must commence binding arbitration in accordance with the provisions of 18.7 and 18.8.

18.7. **Arbitration.** The Parties agree that any dispute, controversy, or claim arising out of or related to the Employee's employment with the Company or termination of employment, this Agreement, or any alleged breach of this Agreement shall be governed by the Federal Arbitration Act (FAA) and submitted to and decided by binding arbitration to be held in Illinois. Parties agree to hold the deliberations in such arbitration confidential.

18.8. **Arbitration Procedure.** The Parties agree arbitration must be commenced by delivering a notice of arbitration to the other Party. The Notice must set out the nature of the claim(s), and the relief requested. Within thirty (30) days of the receipt of the notice, the receiving Party shall deliver an answer, any counterclaim(s), and relief requested. Arbitration shall be heard by a single arbitrator. Each Party shall pay its own costs of arbitration. The Parties shall confer in good faith to attempt to agree upon a suitable arbitrator, and if unable to do so, they will select an arbitrator from the American Arbitration Association's employment arbitration panel for the area. The arbitrator shall decide the procedures in the arbitration after consultation with the Parties. The arbitrator will have the power to grant any provisional or final remedy or relief it deems appropriate, including conservatory measures and an award of attorneys' fees. The decision of the arbitrator shall be final and binding upon the Parties hereto. The Parties agree that judgment may be entered upon the award by any court having jurisdiction.

19. Waiver/Severability. The failure of any Party to enforce any of the provisions hereof will not be construed to be a waiver of the right of such Party thereafter to enforce such provisions. If any provision of this Agreement is found to be unenforceable, that provision will be enforced to the maximum extent possible, and the validity, legality and enforceability of the remaining provisions will not in any way be affected or impaired thereby.

20. LIABILITY. NOTWITHSTANDING ANY PROVISION WITHIN THIS AGREEMENT TO THE CONTRARY, AND REGARDLESS OF THE NUMBER OF LOSSES, WHETHER IN CONTRACT, EQUITY, STATUTE, TORT, NEGLIGENCE, OR OTHERWISE:

20.1. NEITHER PARTY SHALL HAVE LIABILITY TO THE OTHER PARTY FOR ANY SPECIAL, INDIRECT, INCIDENTAL, PUNITIVE, EXEMPLARY, LIQUIDATED, OR CONSEQUENTIAL DAMAGES OF ANY KIND, AND NEITHER PARTY SHALL BE LIABLE TO THE OTHER PARTY FOR LOSSES OF PROFIT, REVENUE, INCOME, BUSINESS, ANTICIPATED SAVINGS, DATA, REPUTATION, AND MORE GENERALLY, ANY LOSSES OF AN ECONOMIC OR FINANCIAL NATURE, REGARDLESS OF WHETHER SUCH LOSSES MAY BE DEEMED AS CONSEQUENTIAL OR ARISING DIRECTLY AND NATURALLY FROM THE INCIDENT GIVING RISE TO THE CLAIM, AND REGARDLESS OF WHETHER SUCH LOSSES ARE FORESEEABLE OR WHETHER EITHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH LOSSES; AND

20.2. CENTRALSQUARE'S TOTAL LIABILITY ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT SHALL NOT EXCEED THE AMOUNT(S) ACTUALLY PAID BY CUSTOMER TO CENTRALSQUARE HEREUNDER FOR THE LAST TWELVE MONTHS.

21. Third-Party Materials. CentralSquare may from time to time, in its discretion engage third parties to perform services, provide software, or provide equipment. Customer acknowledges and agrees CentralSquare provides front-line support services for third parties, but these third parties assume all responsibility and liability in connection with the third-party software, equipment, or related services. CentralSquare is not authorized to make any representations or warranties that are binding upon the third-party or to engage in any other acts that are binding upon the third-party, excepting specifically that CentralSquare is authorized to represent third-party fees in the Agreement and to accept payment of such amounts from Customer on behalf of the third-party for as long as such third-party authorizes CentralSquare to do so. As a condition precedent to installing or

accessing any third-party Materials, Customer may be required to execute a click-through, shrink-wrap End User License Agreement (EULA) or similar agreement provided by the Third-Party Materials provider. All third-party materials are provided "as-is" and any representation or warranty concerning them is strictly between Customer and the third-party.

- 22. Entire Agreement.** This Agreement, and any Exhibits specifically incorporated therein by reference, constitutes the entire agreement between the Parties with respect to the subject matter. These documents supersede and merge all previous and contemporaneous proposals of sale, communications, representations, understandings and agreements, whether oral or written, between the Parties with respect to the subject hereof. This Agreement may not be modified except by a writing subscribed to by authorized representatives of both Parties.
- 23. No Third-Party Beneficiaries.** This Agreement is for the sole benefit of the Parties and their respective successors and permitted assigns and nothing herein, express or implied, is intended to or shall confer on any other person any legal or equitable right, benefit, or remedy of any nature under or by reason of this Agreement.
- 24. Counterparts.** This Agreement may be executed in several counterparts, each of which when so executed shall be deemed to be an original, and such counterparts shall constitute one and the same instrument. This Amendment shall be considered properly executed by a Party if executed by that Party and transmitted by facsimile or other electronic means including, without limitation, DocuSign, Tagged Image Format Files (TIFF), or Portable Document Format (PDF).
- 25. Material Adverse Change.** If any Law, Regulatory Approval, applicable standard, process, OEM requirement is changed or comes into force after the Effective Date, including but not limited to PCI standards (collectively, a "Material Adverse Change"), which is not explicitly addressed within this Agreement and results in *significant extra* costs for either Party in relation to the performance of this Agreement, both Parties shall promptly meet, discuss in good faith, and agree upon reducing the technical, operational, and/or commercial impact of such Material Adverse Change.
- 26. Cooperative Purchases.** This Contract may be used by other government agencies. CentralSquare has agreed to offer similar services to other agencies under the same terms and conditions as stated herein except that the compensation may be negotiated between CentralSquare and other agencies based on the specific revenue expectations, agency reimbursed costs, and other agency requirements. The Customer will in no way whatsoever incur any liability in relation to specifications, delivery, payment, or any other aspect of purchases by such agencies.
- 27. Order of Precedence.**
- 27.1. In the event of any conflict or inconsistency between this Agreement, the Exhibits, or any purchase order, then the following priority shall prevail:
- 27.1.1. The main body of this Agreement and any associated amendments or change orders.
- 27.1.2. The attached Exhibits to this Agreement.
- 27.1.3. Purchase Orders placed with CentralSquare in accordance with this Agreement.
- Customer's purchase terms and conditions or CentralSquare's sales terms and conditions are not applicable and shall have no force and effect, whether referenced or not in any document in relation to this Agreement.
- 27.2. Incorporated Exhibits to this Agreement:
- Exhibit 1 – Project Cost Summary
- Exhibit 2 - Maintenance & Support Standards

EXHIBIT 1
Project Cost Summary

04/01/2021 - 03/31/2022

	Applications and/or Services	Annual Access Fee
Renewal Services		\$172,016.56
Existing PLUS Products (Currently Licensed)	PLUS Alarm Billing, PLUS Business Licensing, PLUS Code Enforcement, PLUS Citations, PLUS Central Receipting, PLUS eGOV Alarm Billing, PLUS eGOV Business License , PLUS eGOV Code Enforcement, PLUS eGOV Inspections, PLUS eGOV Inspector Portal, PLUS eGOV Miscellaneous Billing, PLUS eGOV Core, PLUS eGOV Pet License, PLUS eGOV Permits, PLUS eGOV Utility Billing, PLUS eGOV Vehicle License, PLUS eGOV Web Payments, PLUS Fire & Safety Inspections, PLUS Miscellaneous Billing, PLUS Miscellaneous Licensing, PLUS Pet Licensing, PLUS Permitting, PLUS Utility Billing PLUS Vehicle Licensing, PLUS Employee Benefits, PLUS Budget Preparation, PLUS Financial Accounting, PLUS Human Resources, PLUS Zoning & Development, PLUS Workflow Center, PLUS Community Workflow Center, PLUS Fixed Asset, PLUS Employee Access Center	\$172,016.56
Exiting Third Party Products (Currently Licensed)	Optio ECI Four Js Compiler Four Js Concurrent User License (45 User) BI Analytics PLUS Multi-Data Source (Cognos 8)	Included in Annual Access Fee
Horizon Cloud Services	Hardware and software will be managed by Superior. Site to Site VPN, Disaster Recovery Plan for Superior Products	Included in Annual Access Fee
	Total	\$172,016.56

NOTE: PLUS Custom Mods will continue to be billed separately

PAYMENT TERMS:

- a. The Annual Subscription Fee is due pursuant to the date and the amounts set forth in the table above.

EXHIBIT 2

Support Standards

- I. Support Hours: Hours During Which CentralSquare 's Telephone Support Will be Available to Customer in Connection with the Provision of Maintenance:** Unless otherwise noted in the Order as to Support Type, support hours are Monday through Friday, 8:00 A.M. to 5:00 P.M. Customer's Local Time within the continental United States, excluding holidays ("5x9").
- II. Targeted Response Times.**
 "Notification" means a communication to CentralSquare 's help desk by means of: (i) CentralSquare 's web helpline; or (ii) the placement of a telephone call.
- III. Support Terms.**
 Beginning on the Execution Date and continuing for twelve (12) months thereafter ("**Initial Support Term**"), CentralSquare shall provide the ongoing Support Services described herein for the corresponding Fees outlined in Exhibit 1. Upon expiration of the Initial Support Term, ongoing Support Services shall automatically renew, with customer paying for additional annual support periods, each a ("**Renewal Support Term**"). This renewal will continue until termination of this Agreement provided that, CentralSquare shall not give notice of termination if it would be effective prior to a period equal to two times the Agreement's Initial Support Term.

With respect to CentralSquare 's support obligations, CentralSquare will use diligent, commercially reasonable efforts to respond to Notifications from Customer relating to the Solution identified in the Order in accordance with the following guidelines with the time period to be measured beginning with the first applicable CentralSquare "Telephone Support" hour occurring after CentralSquare 's receipt of the Notification:

Priority	Description	Response Goal	Resolution Goal
Urgent 1	A support issue shall be considered Urgent when it produces a Total System Failure; meaning the Solution is not performing a process that has caused a complete work stoppage.	Within 60 minutes of the issue being reported and a resolution planned within 24 hours.	Although resolution times vary depending on the exact issue and customer environment, CentralSquare has a stated goal to resolve an urgent issue within 24 hours or provide a resolution plan with urgent issues within 24 hours of being reported. A resolution plan will detail the steps necessary to understand and possibly resolve the issue.
Critical 2	A support issue shall be considered Critical when a critical failure in operations occurs; meaning CentralSquare 's Solution is not performing a critical process and prevents the continuation of basic operations. Critical problems do not have a workaround. This classification does not apply to intermittent problems.	Within two hours of the issue being reported and a resolution planned within five (5) days.	
Non-Critical 3	A support issue shall be considered Non-Critical when a non-critical failure in operations occurs; meaning the Solution is not performing non-critical processes, but the system is still usable for its intended purpose or there is a workaround.	Within four hours of the issue being reported.	
Minor 4	A support issue will be considered Minor when the issue causes minor disruptions in the way tasks are performed, but does not affect workflow or operations. This may include cosmetic issues, general questions, and how to use certain features of the system.	Within 24 hours of the issue being reported.	

Response timing is measured from the moment a Case number is created. As used herein a "Case number" is created when a) CentralSquare 's support representative has been directly contacted by Customer either by phone, in person, or through CentralSquare 's online support portal, and b) when CentralSquare 's support representative assigns a case number and conveys that case number to the Customer. Customer must provide remote access to its facility using a CentralSquare approved remote access Customer so that CentralSquare can perform the support obligations and/or services under this Agreement; and will provide appropriate security access and accounts for CentralSquare staff and each session participant

COMMITTEE AGENDA ITEM VILLAGE OF HOFFMAN ESTATES

SUBJECT: Request authorization of an Employee Leasing Agreement with GovTempsUSA, LLC, for Civil Engineer staff services at a rate of \$77 per hour

MEETING DATE: April 26, 2021

COMMITTEE: Finance Committee

FROM: Peter Gugliotta, Director of Development Services

REQUEST: Request authorization of an Employee Leasing Agreement with GovTempsUSA, LLC, for Civil Engineer staff services at a rate of \$77 per hour.

BACKGROUND: Effective April 9, 2021, Civil Engineer 1, Greg Burkey, resigned his position with the Village. Since this position plays a key role with the Village's Annual Street Rehabilitation Project, staff has been reassigned from other engineering tasks to ensure the work proceeds on schedule. To cover short term engineering plan reviews, inspections, and other immediate tasks, the Village retained the service of an experienced civil engineer through GovTempsUSA, LLC.

GovTempsUSA, LLC, specializes in providing professionals who have substantial municipal experience in specialized fields and are able to contribute quickly upon hire. Often the placements are recently retired from their municipal career, however, they are still interested in continued work on a project basis. The Village has successfully used temporary staffing from GovTempsUSA in the past.

DISCUSSION: It is anticipated the recruitment process to replace the vacant Civil Engineer 1 position will take two to three months to complete. Further, while it is expected the new employee will be able to contribute initially upon hire, the typical learning curve for new employees can extend several months. Therefore the need for GovTempsUSA staffing assistance will extend for several months, including after the replacement starts work. It is expected this period will result in the contract extending beyond the \$20,000 Village Manager's spending authority, and therefore the attached contract is attached for Committee and Board consideration.

DISCUSSION: (Cont'd)

The contract is structured so the temporary staff assistance is done on a contract basis and not as an employee of the Village. The Village will pay GovTempsUSA on a monthly basis at the agreed upon rate of \$77 per hour, which will cover the employee's pay plus all GovTempsUSA costs. This staff will be scheduled to work 20-26 hours per week, as determined by the Director of the Engineering Division.

The contract has an initial termination date of October 1, 2021, but can be automatically extended on a bi-weekly basis through the end of December 2021, unless either party provides two weeks advance notice. Based on the current heavy workload in the Engineering Division, it is expected this position will continue as long as funds are available.

FINANCIAL IMPACT:

The cost of the temporary employee will be covered by salary savings from the position vacancy and other funds that may become available. Village management staff will monitor the duration of the GovTempsUSA contract to ensure adequate funds are available to cover the ongoing costs.

RECOMMENDATION:

Request authorization of an Employee Leasing Agreement with GovTempsUSA, LLC, for Civil Engineer staff services at a rate of \$77 per hour.

Attachment

EMPLOYEE LEASING AGREEMENT

THIS EMPLOYEE LEASING AGREEMENT (this "Agreement") is made this 26th day of April 2021 ("Effective Date") by and between **GOVTEMPUSA, LLC**, an Illinois limited liability company ("GovTemps"), and **Village of Hoffman Estates** (the "Municipality") (GovTemps and the Municipality may be referred to herein individually as "Party" and collectively as the "Parties")

RECITALS

The Municipality desires to lease certain employees of GovTemps to assist the Municipality in its operations and GovTemps desires to lease certain of its employees to the Municipality on the terms and conditions contained herein.

AGREEMENT

NOW, THEREFORE, in consideration of the mutual covenants and conditions set forth below, and other good and valuable considerations, the receipt and sufficiency of which are mutually acknowledged by the Parties, the Parties hereby agree as follows:

SECTION 1 SCOPE OF AGREEMENT

Section 1.01. Worksite Employee. The Municipality hereby agrees to engage the services of GovTemps to provide, and GovTemps hereby agrees to supply to the Municipality, the personnel fully identified on **Exhibit A** hereto, hereinafter the "Worksite Employee." **Exhibit A** to this Agreement shall further identify the employment position and/or assignment ("Assignment") the Worksite Employee shall fill at the Municipality and shall further identify the base compensation for each Worksite Employee, as of the effective date of this Agreement. **Exhibit A** may be amended from time to time by a replacement **Exhibit A** signed by both GovTemps and the Municipality. GovTemps shall have the sole authority to assign and/or remove the Worksite Employee, provided, however, that the Municipality may request, in writing, that GovTemps remove or reassign the Worksite Employee, such request shall not be unreasonably withheld by GovTemp. The Parties hereto understand and acknowledge that the Worksite Employee shall be subject to the Municipality's day-to-day supervision.

Section 1.02. Independent Contractor. GovTemps is and shall remain an independent contractor, and not an employee, agent, partner of, or joint venturer with, the Municipality. GovTemps shall have no authority to bind the Municipality to any commitment, contract, agreement or other obligation without the Municipality's express written consent.

SECTION 2 SERVICES AND OBLIGATIONS OF GOVTEMPS AND MUNICIPALITY

Section 2.01. Payment of Wages. GovTemps shall timely pay the wages and related payroll taxes of the Worksite Employee from GovTemp's own account in accordance with federal and Illinois law and GovTemp's standard payroll practices. GovTemps shall withhold

from such wages all applicable taxes and other deductions elected by the Worksite Employee. GovTemps shall timely forward all deductions to the appropriate recipient as required by law. The Municipality hereby acknowledges that GovTemps may engage a financial entity to maintain its financing and record keeping services, which may include the payment of wages and related payroll taxes in accordance with this Section 2.01. The Municipality agrees to cooperate with any such financial entity to ensure timely payment of (i) wages and related payroll taxes pursuant to this Section 2.01, and (ii) Fees pursuant to Section 3.03.

Section 2.02. Workers' Compensation. To the extent required by applicable law, GovTemps shall maintain and administer workers' compensation, safety and health programs. GovTemps shall maintain in effect workers' compensation coverage covering all Worksite Employee and complete and file all required workers' compensation forms and reports.

Section 2.03. Employee Benefits. GovTemps shall provide to Worksite Employee those employee benefits fully identified on **Exhibit B** hereto. GovTemps may amend or terminate any of its employee benefit plans according to their terms. All employee benefits, including severance benefits for Worksite Employee will be included in Fees payable to GovTemps under Section 3.01 of this Agreement.

Section 2.04. Maintenance and Retention of Payroll and Benefit Records. GovTemps shall maintain complete records of all wages and benefits paid and personnel actions taken by GovTemps in connection with any of the Worksite Employee, shall retain control of such records at such GovTemps location as shall be determined solely by GovTemps, and shall make such records available as required by applicable federal, state or local laws.

Section 2.05. Other Obligations of GovTemps. GovTemps shall be responsible for compliance with any federal, state and local law that may apply to its Worksite Employee(s).

Section 2.06. Direction and Control. The Parties agree and acknowledge that the Municipality has the right of direction and control over the Worksite Employee, including matters of discipline, excluding removal or reassignment, as provided for by Section 1.01. The Worksite Employee shall be supervised, directly and indirectly, and exclusively by the Municipality's supervisory and managerial employees.

Section 2.07. Obligations of the Municipality. As part of the employee leasing relationship, the Municipality hereby covenants, agrees and acknowledges:

(a) The Municipality shall comply with OSHA and all other health and safety laws, regulations, ordinances, directives, and rules applicable to the Worksite Employee or to his or her place of work. The Municipality agrees to comply, at its expense, with all health and safety directives from GovTemps internal and external loss control specialists, GovTemp's workers' compensation carrier, or any government agency having jurisdiction over the place of work. The Municipality shall provide and ensure use of all personal protective equipment as required by any federal, state or local law, regulation, ordinance, directive, or rule or as deemed necessary by GovTemp's workers' compensation carrier. GovTemps and GovTemps' insurance carriers shall have the right to inspect the Municipality's premises to ensure that the Worksite Employee is not

exposed to an unsafe work place. In no way shall GovTemp's rights under this paragraph affect the Municipality's obligations to the Worksite Employees under applicable law or to GovTemps under this Agreement;

(b) With respect to the Worksite Employees, the Municipality shall comply with all applicable employment-related laws and regulations, including and, without limitation, Title VII of the Civil Rights Act of 1964, as amended, (Title VII), the Americans With Disabilities Act of 1990 (ADA), the Age Discrimination in Employment Act (ADEA), the Equal Pay Act of 1963, the Civil Rights Acts of 1866 and 1871 (42 U.S.C. § 1981), the Family and Medical Leave Act of 1993, the Fair Labor Standards Act of 1938, the National Labor Relations Act, the Employee Retirement Income Security Act of 1974, the Illinois State Constitution, the Illinois Human Rights Act, and any other federal, state or local law, statute, ordinance, order, regulation, policy or decision regulating wages and the payment of wages, prohibiting employment discrimination or otherwise establishing or relating to rights of employees;

(c) The Municipality shall retain the right to exert sufficient direction and control over the Worksite Employee as is necessary to conduct the Municipality's business and operations, without which, the Municipality would be unable to conduct its business, operation or comply with any applicable licensure, regulatory or statutory requirements;

(d) The Municipality shall not have the right to remove or reassign the Worksite Employee unless mutually agreed to in writing by GovTemps and the Municipality in accordance with Section 1.01;

(e) The Municipality agrees that the Municipality shall pay no wages, salaries or other forms of direct or indirect compensation, including employee benefits, to Worksite Employee;

(f) The Municipality shall report to GovTemps any injury to any Worksite Employee of which it has knowledge within twenty-four (24) hours of acquiring such knowledge. If a Worksite Employee is injured in the course of performing services for the Municipality, the Municipality and GovTemps shall follow the procedures and practices regarding injury claims and reporting, as determined by GovTemp. Upon receipt of notification from GovTemps or its insurance carrier that an injured Worksite Employee is able to return to work and perform "light duty," the Municipality shall immediately make available an appropriate light duty work assignment for such Worksite Employee to the extent required or permitted by any applicable law; and

(g) The Municipality shall report all on-the-job illnesses, accidents and injuries of the Worksite Employee to GovTemps within twenty-four (24) hours following notification of said injury by employee or employee's representative.

**SECTION 3
FEES PAYABLE TO GOVTEMP**

Section 3.01. Fees. The Municipality hereby agrees to pay GovTemps fees for the services provided under this Agreement as follows:

(a) The base compensation as fully identified on **Exhibit A**, as amended; plus

(b) Any employee benefits GovTemps paid to the Worksite Employee as identified on **Exhibit B** hereto, including, but not limited to, salary; wages; commissions; bonuses; sick pay; workers' compensation, health and other insurance premiums; payroll, unemployment, FICA and other taxes; vacation pay; overtime pay; severance pay; monthly automobile allowances, and any other compensation or benefits payable under any applicable GovTemps pension and welfare benefit plan or federal, state or local laws covering the Worksite Employee.

Section 3.02. Increase in Fees. GovTemps may increase fees to the extent and equal to any mandated tax increases, e.g. FICA, FUTA, State Unemployment taxes when they become effective. GovTemps may also adjust employer benefit contribution amounts by providing the Municipality with a written thirty (30) day notice, provided, such changes in employer benefit contribution amounts apply broadly to all GovTemps employees.

Section 3.03. Payment Method. Following the close of each month during the term of this Agreement, GovTemps shall provide the Municipality a written invoice for the fees owed by the Municipality pursuant to this Agreement for the prior month. Within thirty (30) days following receipt of such invoice, the Municipality shall pay all invoiced amounts by check, wire transfer or electronic funds transfer to GovTemps to an account or lockbox as designated on the invoice.

**SECTION 4
INSURANCE**

Section 4.01. General and Professional Liability Insurance. The Municipality shall maintain in full force and effect at all times during the term of this Agreement a Comprehensive (or Commercial) General Liability and Professional Liability (if applicable) insurance policy or policies (the "Policies"), with minimum coverage in the amount of \$1,000,000 per occurrence, \$3,000,000 aggregate. At a minimum, the Policies shall insure against bodily injury and property damage liability caused by on-premises business operations, completed operations and/or products or professional service and non-owned automobile coverage.

Section 4.02. Certificate of Insurance. Upon request, the Municipality shall provide GovTemps with one or more Certificates of Insurance, verifying the Municipality's compliance with the provisions of Section 4.01.

Section 4.03. Automobile Liability Insurance. If the Worksite Employee drives a Municipal or personal vehicle for any reason in connection with his or her Assignment, the Municipality shall maintain in effect automobile liability insurance which shall insure the

Worksite Employee, GovTemps and the Municipality against liability for bodily injury, death and property damage.

SECTION 5 DURATION AND TERMINATION OF AGREEMENT

Section 5.01. Effective and Termination Dates. The Effective Date of this Agreement is the date that this Agreement is last signed by GovTemps on the signature page (the "Effective Date"). The period during which the Assigned Employee works at the Client is defined as the ("Term"). The Term commences on the Effective Date and will continue for the period identified on the attached Exhibit A, or until it is terminated in accordance with the remaining provisions of this Section 5. For the purposes of this Agreement, the date on which this Agreement expires and/or is terminated is the ("Termination Date").

Section 5.02. Termination of Agreement for Failure to Pay Fees. If the Municipality fails to timely pay the fees required under this Agreement, GovTemps may give the Municipality notice of its intent to terminate this Agreement for such failure and if such failure is remedied within ten (10) days, the notice shall be of no further effect. If such failure is not remedied within the ten (10) day period, GovTemps shall have the right to terminate the Agreement upon expiration of such remedy period.

Section 5.03. Termination of Agreement for Material Breach. If either Party materially breaches this Agreement, the non-breaching Party shall give the breaching Party notice of its intent to terminate this Agreement for such breach and if such breach is remedied within ten (10) days, the notice shall be of no further effect. If such breach is not remedied within the ten (10) day period, the non-breaching Party shall have the right to immediately terminate the Agreement upon expiration of such remedy period.

SECTION 6 NON-SOLICITATION

Section 6.01. Non-Solicitation. The Municipality acknowledges GovTemp's legitimate interest in protecting its business for a reasonable time following the termination of this Agreement. Accordingly, the Municipality agrees that during the term of this Agreement and for a period of two (2) years thereafter, the Municipality shall not solicit, request, entice or induce Worksite Employee to terminate his or her employment with the GovTemp, nor shall the Municipality hire Worksite Employee as an employee.

Section 6.02. Injunctive Relief. The Municipality recognizes that the rights and privileges granted by this Agreement are of a special, unique, and extraordinary character, the loss of which cannot reasonably or adequately be compensated for in damages in any action at law. Accordingly, the Municipality understands and agrees that GovTemps shall be entitled to equitable relief, including a temporary restraining order and preliminary and permanent injunctive relief, to prevent or enjoin a breach of Section 6.01 this Agreement. The Municipality also understands and agrees that any such equitable relief shall be in addition to, and not in substitution for, any other relief to which the GovTemps may be entitled.

Section 6.03. Survival. The provision of this Section 6 shall survive any termination of this Agreement.

SECTION 7 DISCLOSURE AND INDEMNIFICATION PROVISIONS

Section 7.01. GovTemps Liability. GovTemps shall be liable for all claims, liabilities, attorney's fees, costs and expenses related to (i) the acts, errors, or omissions of GovTemp, its related business entities, its agents, representatives, and employees, including any breach hereunder, and (ii) the Worksite employee that related to events or incidents occurring prior to or subsequent to the terms of this Agreement.

Section 7.02. Municipality's Liability. Except to the extent prohibited by law and without waiving any and all of its defenses including those pursuant to the Illinois Local Government and Government Employee's Tort Immunity Act, 745 ILCS 10/1-101 et seq., Municipality shall be liable for (i) the acts, errors or omissions of the Municipality, relating to the activities or conditions associated with the Assignment. Notwithstanding the foregoing, Municipality shall have no obligations to GovTemps with respect to Losses arising out of events or incidents occurring before or after the term of this Agreement. In accordance with Section 2.02 herein, Municipality shall not indemnify GovTemps for any worker's compensation benefits or payments made to Worksite Employee by GovTemps arising out of the performance of this Agreement.

Section 7.03. Survival of Indemnification Provisions. The provisions of this Section 7 shall survive the expiration or other termination of this Agreement.

SECTION 8 ADDITIONAL PROVISIONS

Section 8.01. Amendments. This Agreement may be amended at any time and from time to time, but any amendment must be in writing and signed by all of the Parties to this Agreement, except for changes to the fees as set forth in Section 3.

Section 8.02. Binding Effect. This Agreement shall inure to the benefit of and be binding upon the Parties and their respective heirs, successors, representatives and assign. Neither Party may assign its rights or delegate its duties hereunder without the express written consent of the other Party, which consent shall not be unreasonably withheld.

Section 8.03. Counterpart Execution. This Agreement may be executed and delivered in any number of counterparts, each of which shall be an original, but all of which together shall constitute one and the same instrument. This Agreement may be executed and delivered via facsimile.

Section 8.04. Definitions. Terms and phrases defined in any part of this Agreement shall have the defined meanings wherever used throughout the Agreement. The terms "hereunder" and "herein" and similar terms used in this Agreement shall refer to this Agreement in its entirety and not merely to the section, subsection or paragraph in which the term is used.

Section 8.05. Entire Agreement. This Agreement constitutes the entire agreement between the Parties regarding GovTemp's provision of Worksite Employee to the Municipality, and contains all of the terms, conditions, covenants, stipulations, understandings and provisions agreed upon by the Parties. This Agreement supersedes and takes precedence over all proposals, memorandum agreements, tentative agreements, and oral agreements between the Parties, made prior to and including the date hereof, and not specifically identified and incorporated in writing into this Agreement. No agent or representative of either Party hereto has authority to make, and the Parties shall not be bound by or liable for, any statement, representation, promise, or agreement not specifically set forth in this Agreement.

Section 8.06. Further Assurances. Each of the Parties shall execute and deliver any and all additional papers, documents, and other assurances and shall do any and all acts and things reasonably necessary in connection with the performances of their obligations hereunder and to carry out the intent of the parties hereto.

Section 8.07. Gender. Whenever the context herein so requires, the masculine, feminine or neuter gender and the singular and plural number shall each be deemed to include the other.

Section 8.08. Notices. Notices given under this Agreement shall be in writing and shall either be served personally or delivered by certified first class U.S. Mail, postage prepaid and return receipt requested or by overnight delivery service. Notices also may effectively be given by transmittal over electronic transmitting devices such as Telex or facsimile machine if the Party to whom the notice is being sent has such a device in its office, provided that a complete copy of any notice shall be mailed in the same manner as required for a mailed notice.

Notices shall be deemed received at the earlier of actual receipt or three days from mailing date. Notices shall be directed to the Parties at their respective addresses shown below. A Party may change its address for notice by giving written notice to the other Party in accordance with this Section:

If to GovTemp:

GOVTEMPSUSA, LLC
630 Dundee Road, Suite# 225
Northbrook, Illinois 60062
Attention: Michael J. Earl
Telephone: 224-261-8366
E-mail: mearl@govhrusa.com

If to the Municipality:

Village of Hoffman Estates
1900 Hassell Road
Hoffman Estates, IL 60169
Attention: Patrick J. Seger
Telephone: (847) 781-2691
Email: Patrick.seger@hoffmanestates.org

Section 8.09. Section Headings. Section and other headings contained in this Agreement are for reference purposes only and shall not affect in any way the meaning or interpretation of this Agreement.

Section 8.10. Severability. If any part or condition of this Agreement is held to be void, invalid or inoperative, such shall not affect any other provision hereof, which shall continue to be effective as though such void, invalid or inoperative part, clause or condition had not been made.

Section 8.11. Waiver of Provisions. The failure by one Party to require performance by the other Party shall not be deemed to be a waiver of any such breach, nor of any subsequent breach by the other Party of any provision of this Agreement. Such waiver shall not affect the validity of this Agreement, nor prejudice either Party's rights in connection with any subsequent action. Any provision of this Agreement may be waived if, but only if, such waiver is in writing signed by the Party against whom the waiver is to be effective.

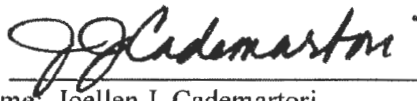
Section 8.12. Confidentiality. Each Party shall protect the confidentiality of the other's records and information and shall not disclose confidential information without the prior written consent of the other Party. Each Party shall reasonably cooperate with the other Party regarding any Freedom of Information Act (FOIA) request calling for production of documents related to this Agreement.

Section 8.13. Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Illinois applicable to contracts made and to be performed entirely within such state, except the law of conflicts.

[Signatures on following page]

IN WITNESS WHEREOF, the Parties hereto have caused this Agreement to be duly executed as of the day and year first above written.

GOVTEMPUSA, LLC,
an Illinois limited liability company

By 
Name: Joellen J. Cademartori
Title: President/Co-owner

EFFECTIVE DATE: April 26, 2021

MUNICIPALITY

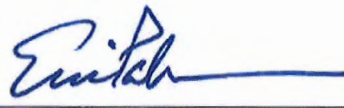
By 
Name: ERIC PALM
Title: VILLAGE MANAGER

EXHIBIT A
Worksite Employee and Base Compensation

WORKSITE EMPLOYEE: Paul Redman

POSITION/ASSIGNMENT: Engineering Technician

POSITION TERM: April 26, 2021 – October 1, 2021

Agreement will automatically be extended on a bi-weekly basis up to December 31, 2021 unless either party provides two weeks advance written notice to terminate the agreement.

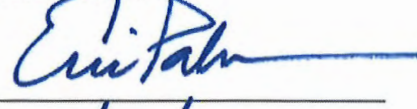
BASE COMPENSATION: \$77/hour. The worksite employee will work a variable schedule but it is anticipated that the worksite employee will average about 20-26 hours/week. Employee will be compensated only for hours worked and will not be compensated for Village Holidays or any other time off for personal reasons. Hours should be reported via email to payroll@govtempusa.com by the close of business on the Monday after the prior work week. The Municipality will be invoiced every other week for hours worked.

GOVTEMPUSA, INC.:

By: 

Date: April 12, 2021

MUNICIPALITY:

By: 

Date: 4/15/21

This Exhibit A fully replaces all Exhibits A dated prior to the date of the Company's signature above.

EXHIBIT B
Summary of Benefits

Not Applicable.

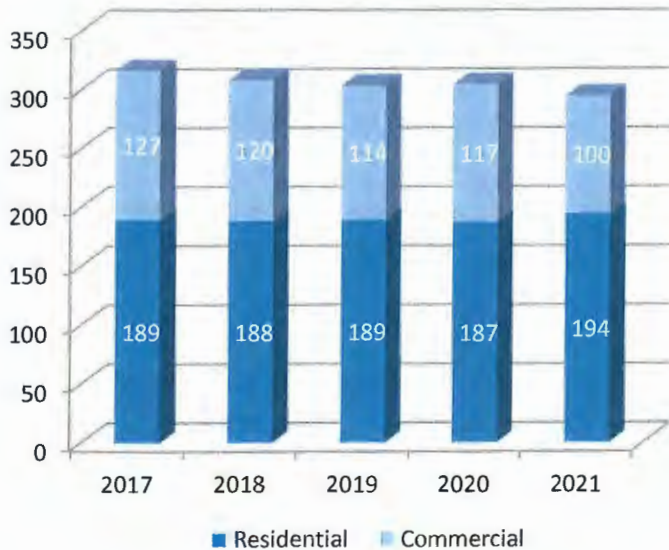


DEPARTMENT OF FINANCE MONTHLY REPORT MARCH 2021

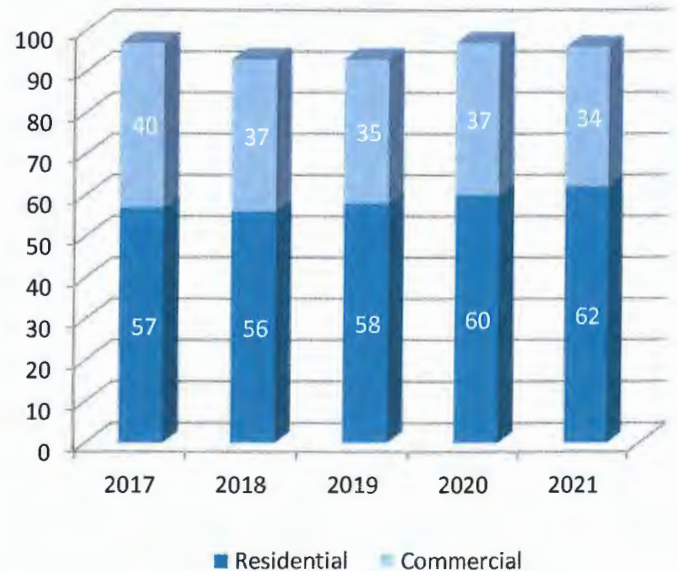
Water Billing

A total of 14,817 residential water bills were mailed on March 1st for January's water consumption. Average consumption was 4,208 gallons, resulting in an average residential water bill of \$61.33. Total consumption for all customers was 96 million gallons, with 62 million gallons attributable to residential consumption. When compared to the March 2020 billing, residential consumption increased by 3.3%.

**Total Water Consumption
Year-To-Date Comparison
Month of March**

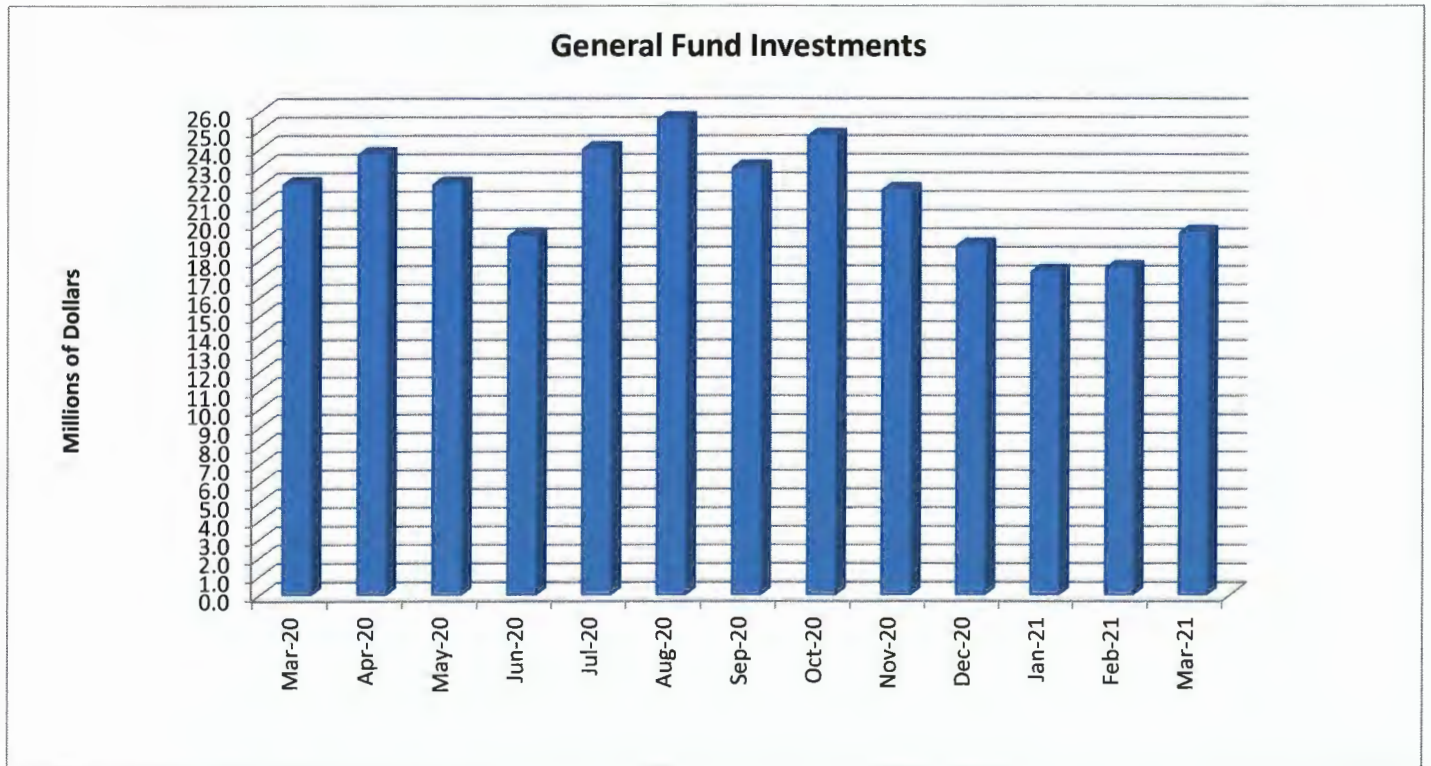
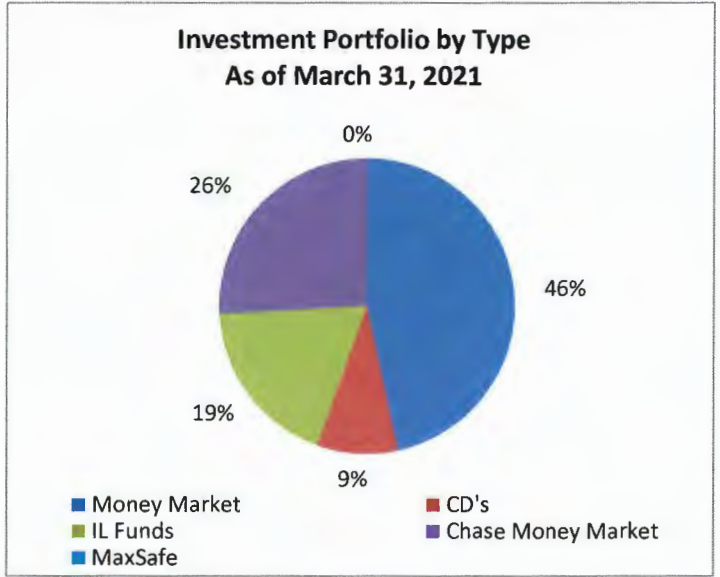
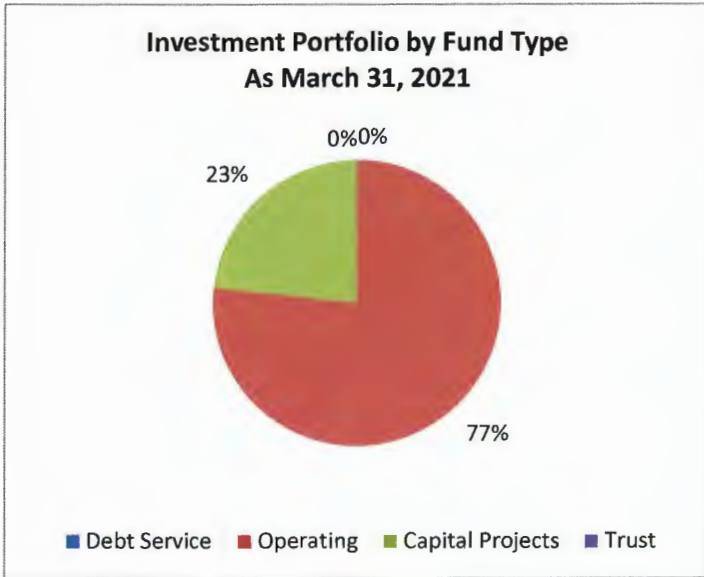


**Total Water Consumption
Month of March**



Village Investments

As of March 31, 2021, the Village's investment portfolio (not including pension trust funds) totaled \$54.9 million. Of this amount, \$42.1 million pertained to the various operating funds. As can be seen in the following graphs, the remaining \$12.8 million is related to debt service, capital projects and trust funds.



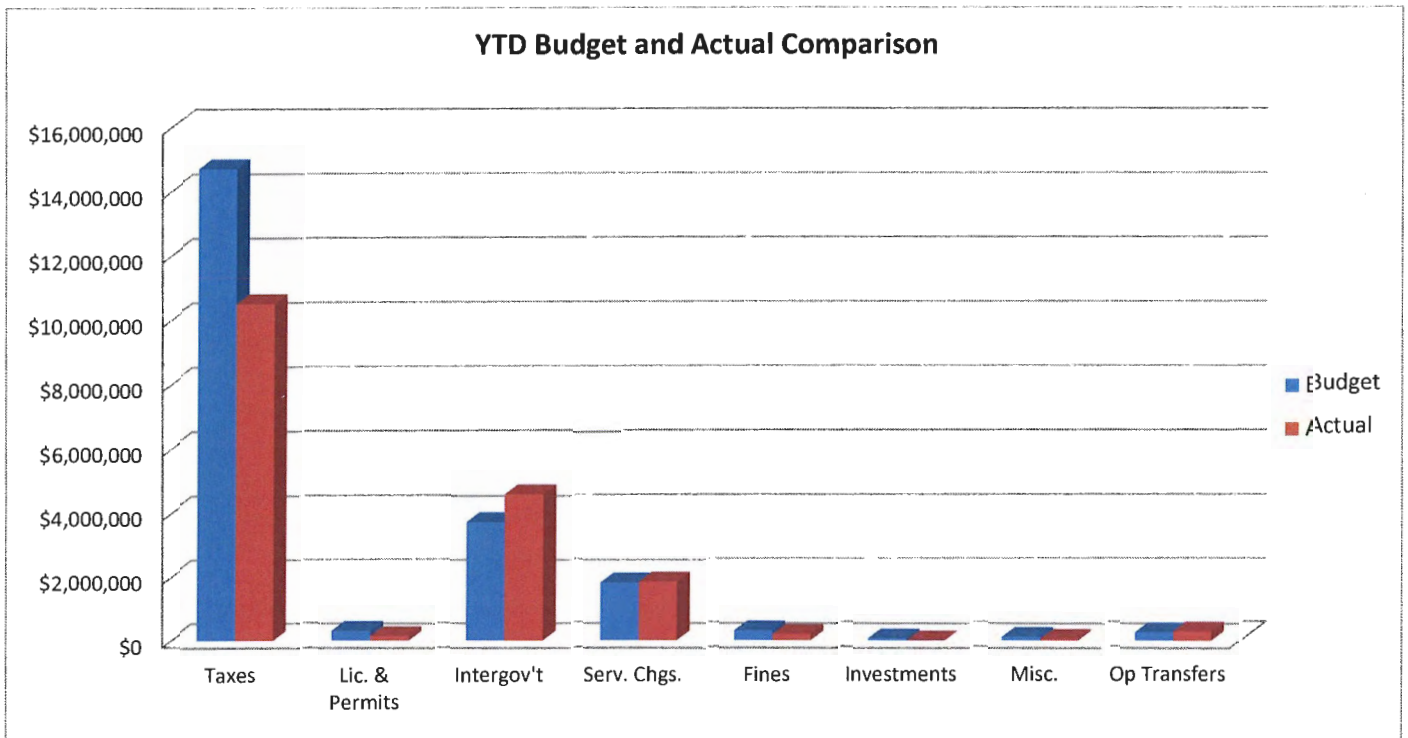
Operating Funds

General Fund

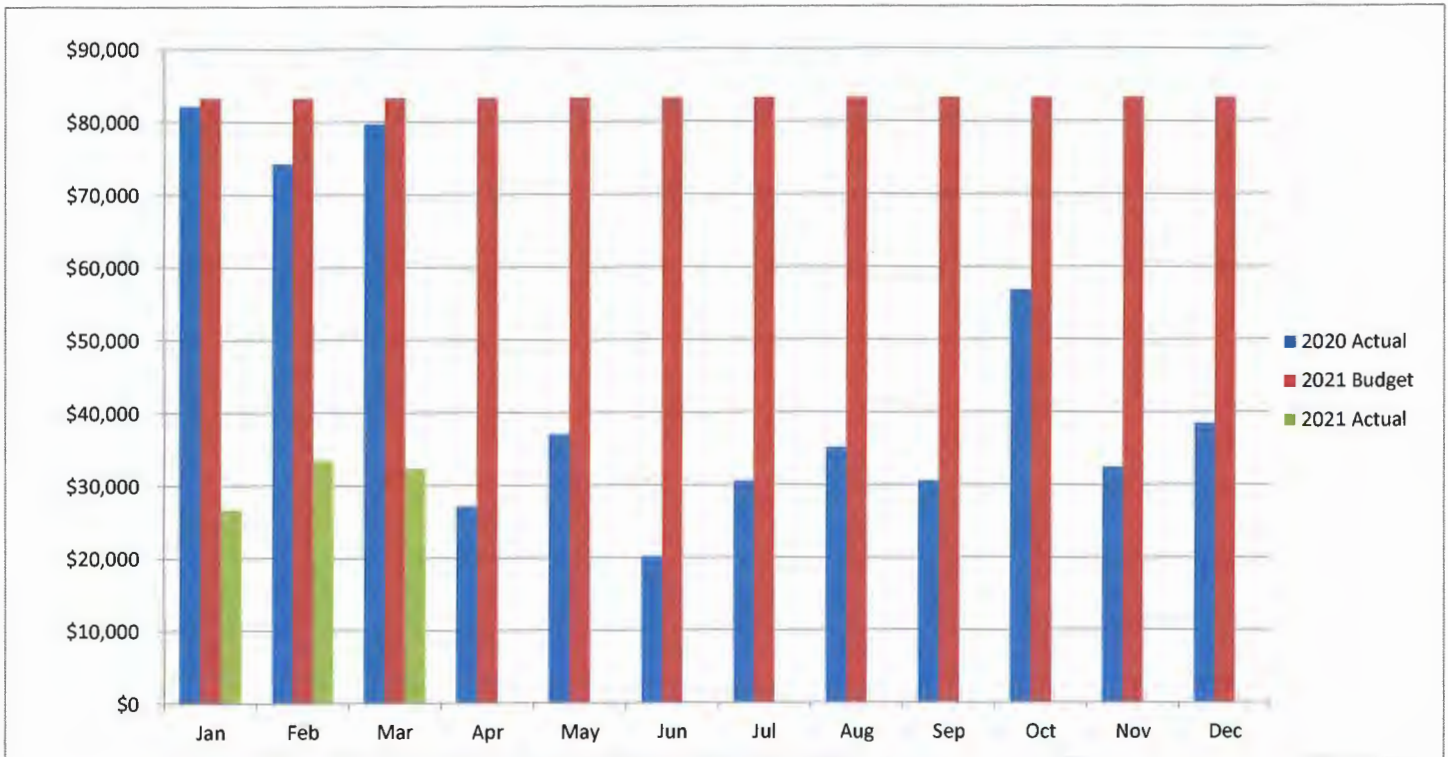
For the month of March, General Fund revenues totaled \$10,120,314 and expenditures totaled \$6,572,743 resulting in a surplus of \$3,547,571.

Revenues: March year-to-date figures are detailed in the table below. Property taxes are due in March and August every year. Licenses and Permits are under budget due to decreased building permit activity. Intergovernmental is over budget due to increased State Income Tax and Local Use Tax received. Fines and Forfeits are under budget because of a distribution delay from the County for traffic violations. Investment income is under budget due to lower interest rates being realized. Most miscellaneous revenues are not received on a monthly basis.

REVENUES	YEAR-TO-DATE		VARIANCE
	BUDGET	ACTUAL	
Taxes	\$ 14,696,230	\$ 10,503,102	-28.5%
Licenses & Permits	306,500	147,380	-51.9%
Intergovernmental	3,720,928	4,588,091	23.3%
Charges for Services	1,814,675	1,842,731	1.5%
Fines & Forfeits	306,500	195,681	-36.2%
Investments	68,750	4,697	-93.2%
Miscellaneous	110,275	59,714	-45.9%
Operating Transfers	263,500	298,300	13.2%
TOTAL	\$ 21,287,358	\$ 17,639,696	-17.1%

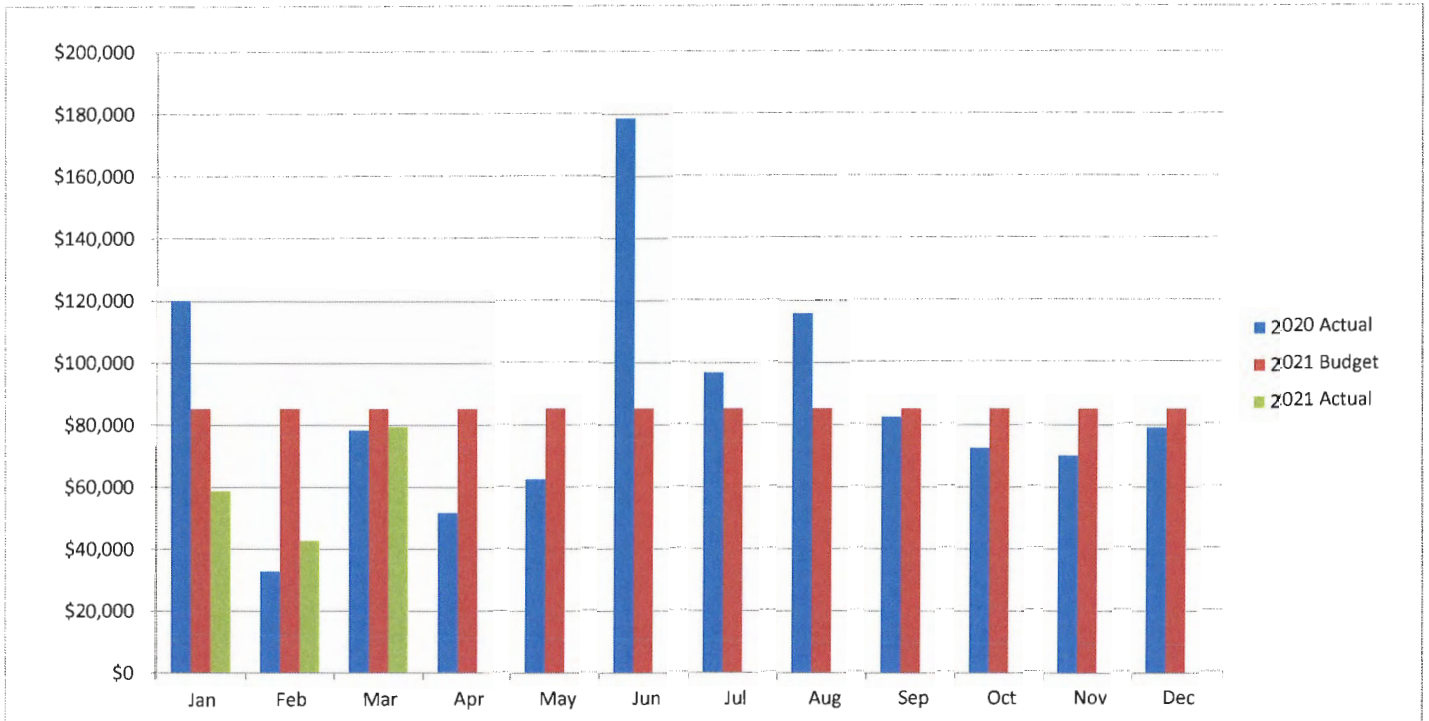


Hotel Tax



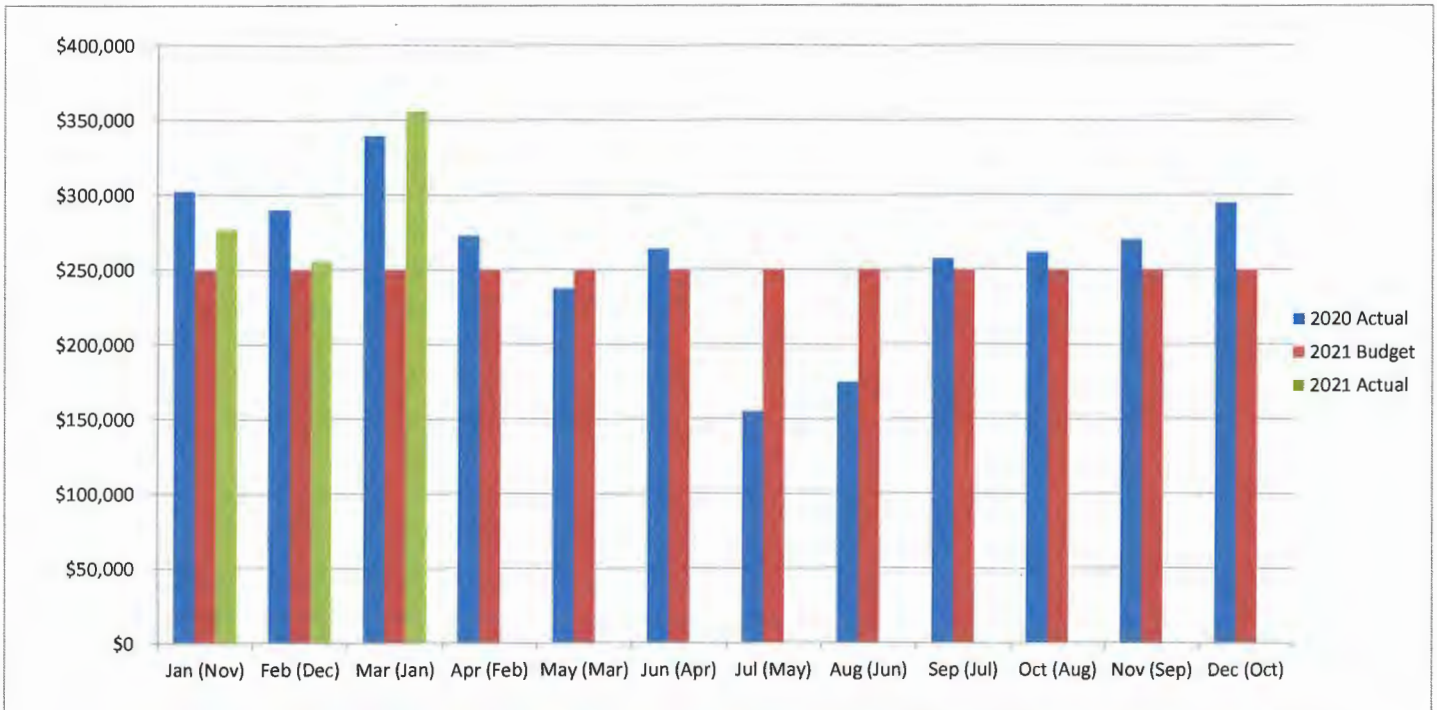
<u>Month Received</u>	<u>2020 Actual</u>	<u>2021 Budget</u>	<u>2021 Actual</u>	<u>Cumulative Variance 2021 Actual vs. Budget</u>
Jan	\$ 82,223	\$ 83,333	\$ 26,728	\$ (56,605)
Feb	74,298	83,333	33,429	(106,510)
Mar	79,749	83,333	32,353	(157,490)
Apr	27,149	83,333		
May	37,036	83,333		
Jun	20,225	83,333		
Jul	30,572	83,333		
Aug	35,212	83,333		
Sep	30,656	83,333		
Oct	56,884	83,333		
Nov	32,499	83,333		
Dec	38,497	83,333		
YTD Totals	<u>\$ 545,000</u>	<u>\$ 1,000,000</u>	<u>\$ 92,510</u>	

Real Estate Transfer Tax



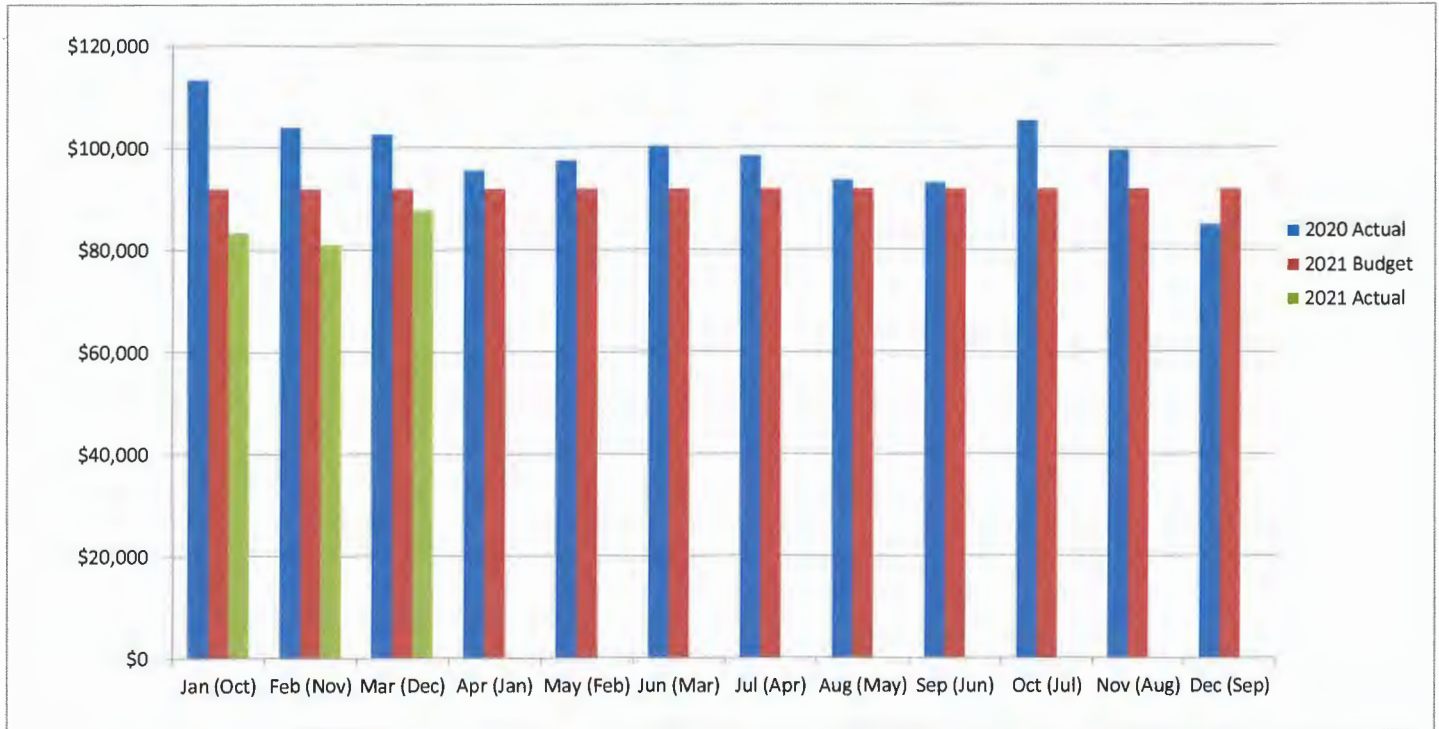
<u>Month Received</u>	<u>2020 Actual</u>	<u>2021 Budget</u>	<u>2021 Actual</u>	<u>Cumulative Variance 2021 Actual vs. Budget</u>
Jan	\$ 120,255	\$ 85,417	\$ 58,874	\$ (26,543)
Feb	32,846	85,417	42,869	(69,090)
Mar	78,510	85,417	79,495	(75,012)
Apr	51,799	85,417		
May	62,570	85,417		
Jun	178,754	85,417		
Jul	97,057	85,417		
Aug	116,011	85,417		
Sep	82,776	85,417		
Oct	72,718	85,417		
Nov	70,306	85,417		
Dec	79,274	85,417		
YTD Totals	<u>\$ 1,042,876</u>	<u>\$ 1,025,000</u>	<u>\$ 181,238</u>	

Home Rule Sales Tax



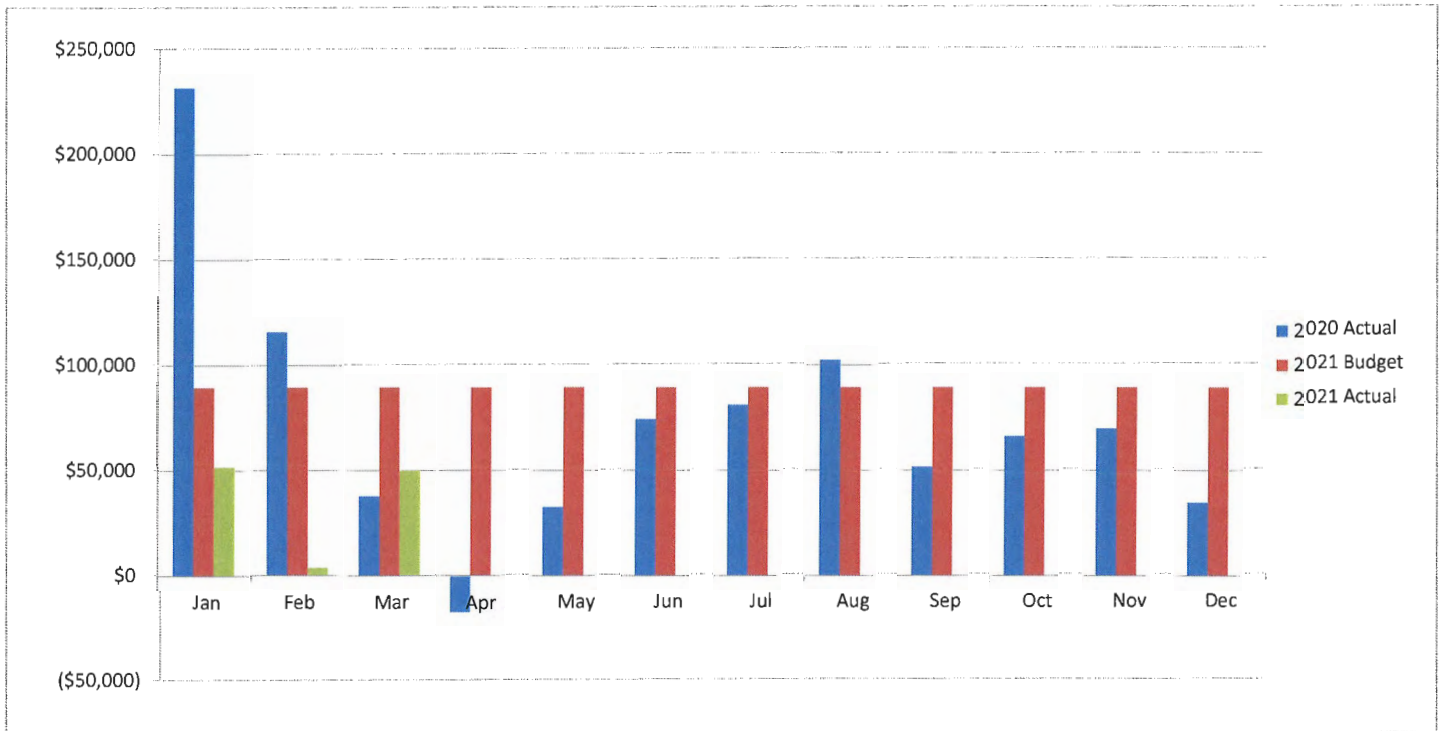
Month Received (Liability Period)	2020 Actual	2021 Budget	2021 Actual	Cumulative Variance 2021 Actual vs. Budget
Jan (Nov)	\$ 302,599	\$ 250,000	\$ 277,151	\$ 27,151
Feb (Dec)	290,185	250,000	255,823	32,974
Mar (Jan)	339,755	250,000	356,150	139,124
Apr (Feb)	273,057	250,000		
May (Mar)	237,508	250,000		
Jun (Apr)	263,959	250,000		
Jul (May)	155,042	250,000		
Aug (Jun)	174,818	250,000		
Sep (Jul)	257,602	250,000		
Oct (Aug)	261,756	250,000		
Nov (Sep)	270,358	250,000		
Dec (Oct)	294,993	250,000		
YTD Totals	\$ 3,121,631	\$ 3,000,000	\$ 889,124	

Telecommunications Tax



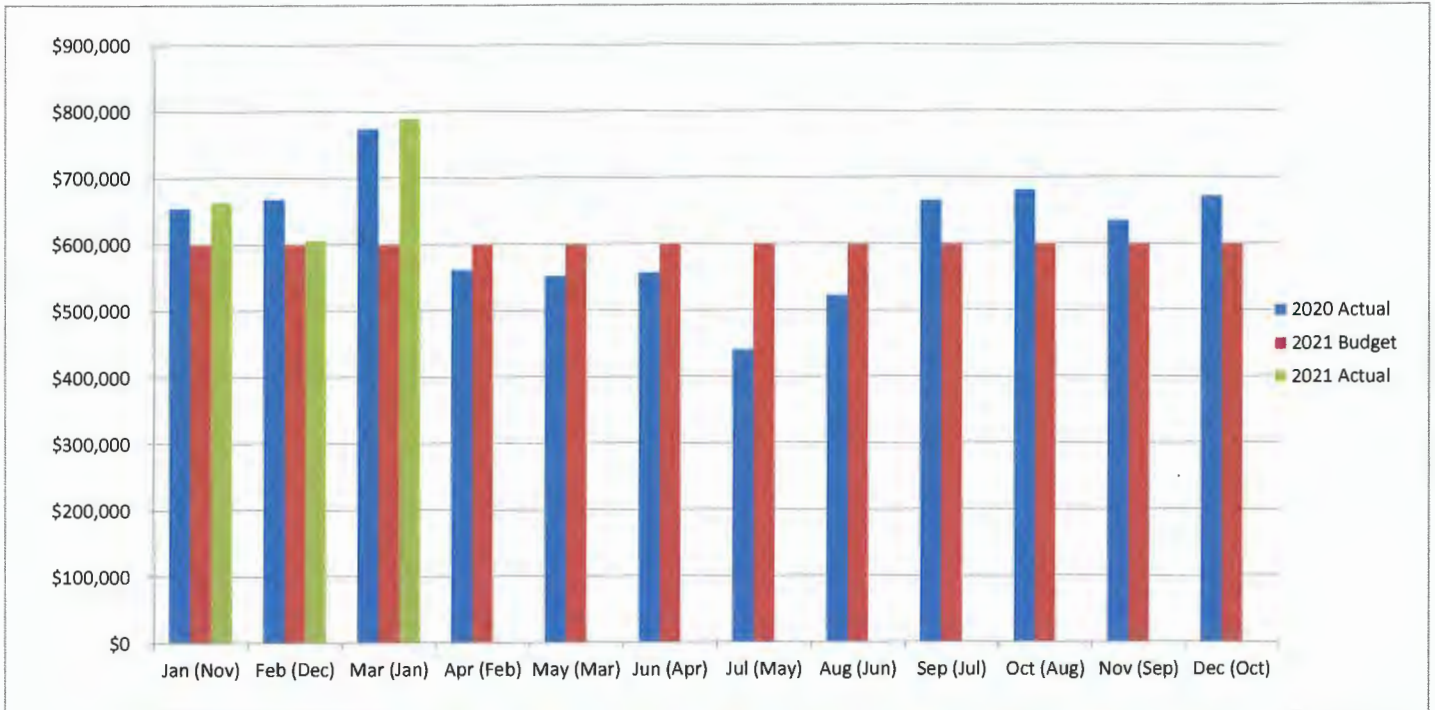
Month Received (Liability Period)	<u>2020 Actual</u>	<u>2021 Budget</u>	<u>2021 Actual</u>	Cumulative Variance 2021 Actual vs. Budget
Jan (Oct)	\$ 113,378	\$ 92,000	\$ 83,469	\$ (8,531)
Feb (Nov)	104,057	92,000	81,074	(19,457)
Mar (Dec)	102,651	92,000	87,837	(23,620)
Apr (Jan)	95,539	92,000		
May (Feb)	97,540	92,000		
Jun (Mar)	100,389	92,000		
Jul (Apr)	98,467	92,000		
Aug (May)	93,701	92,000		
Sep (Jun)	93,153	92,000		
Oct (Jul)	105,359	92,000		
Nov (Aug)	99,607	92,000		
Dec (Sep)	85,022	92,000		
YTD Totals	<u>\$ 1,188,862</u>	<u>\$ 1,104,000</u>	<u>\$ 252,380</u>	

Building Permits



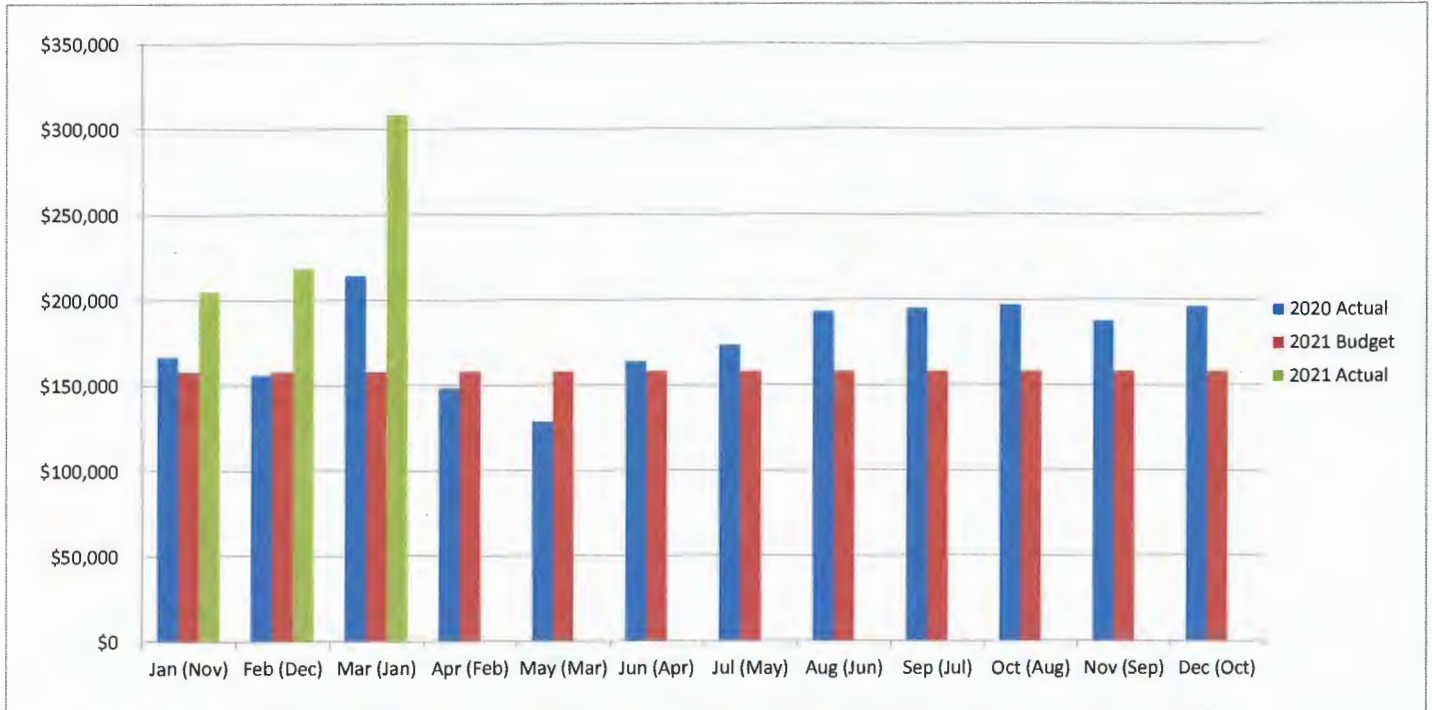
<u>Month Received</u>	<u>2020 Actual</u>	<u>2021 Budget</u>	<u>2021 Actual</u>	<u>Cumulative Variance 2021 Actual vs. Budget</u>
Jan	\$ 231,652	\$ 89,583	\$ 51,733	\$ (37,850)
Feb	116,033	89,583	3,842	(123,592)
Mar	37,924	89,583	50,114	(163,061)
Apr	(17,384)	89,583		
May	32,716	89,583		
Jun	74,446	89,583		
Jul	81,259	89,583		
Aug	102,554	89,583		
Sep	51,740	89,583		
Oct	66,397	89,583		
Nov	70,095	89,583		
Dec	34,922	89,583		
YTD Totals	\$ 882,355	\$ 1,075,000	\$ 105,689	

State Sales Tax



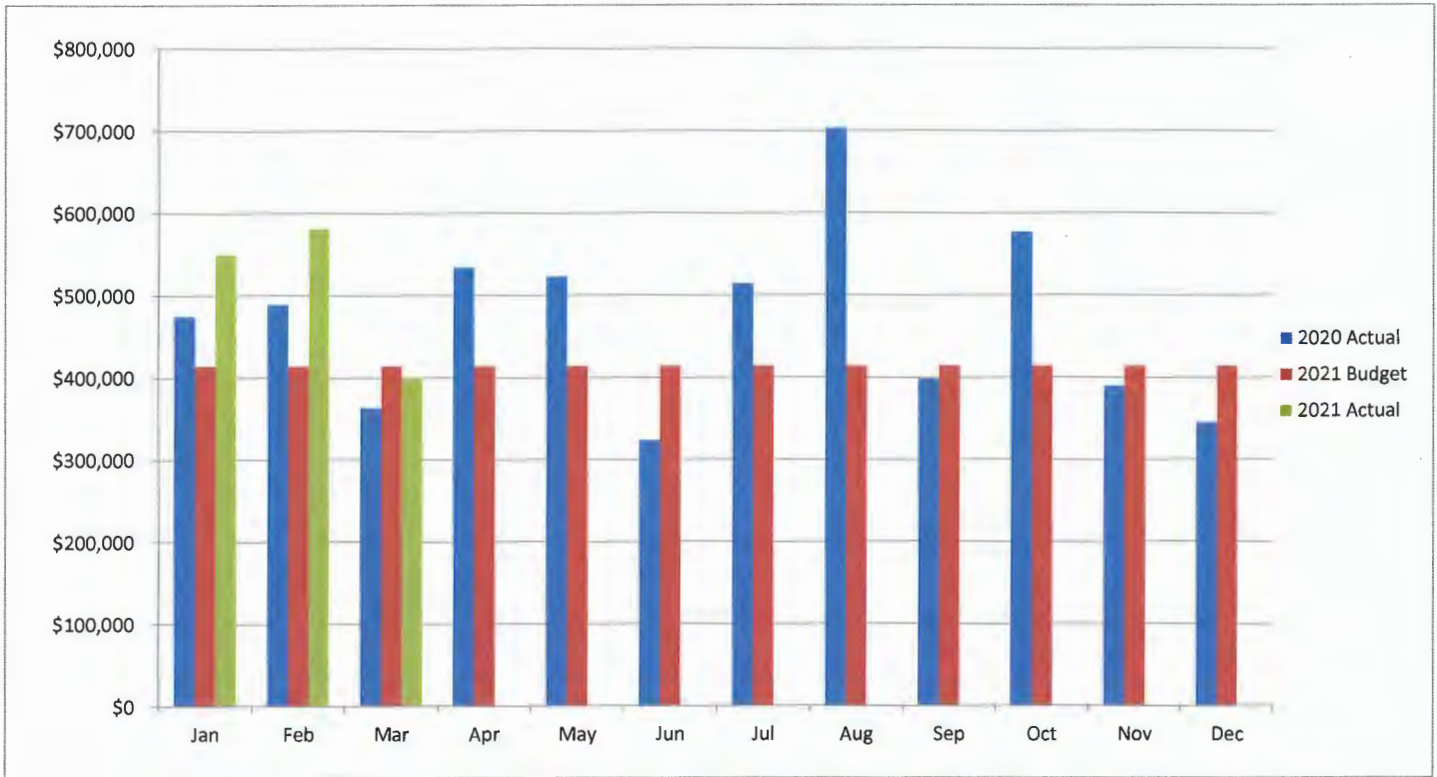
Month Received (Liability Period)	2020 Actual	2021 Budget	2021 Actual	Cumulative Variance 2021 Actual vs. Budget
Jan (Nov)	\$ 654,701	\$ 600,000	\$ 664,123	\$ 64,123
Feb (Dec)	668,077	600,000	606,338	70,461
Mar (Jan)	774,498	600,000	789,650	260,111
Apr (Feb)	561,888	600,000		
May (Mar)	552,432	600,000		
Jun (Apr)	557,618	600,000		
Jul (May)	441,480	600,000		
Aug (Jun)	523,019	600,000		
Sep (Jul)	666,044	600,000		
Oct (Aug)	681,270	600,000		
Nov (Sep)	635,102	600,000		
Dec (Oct)	672,172	600,000		
YTD Totals	\$ 7,388,298	\$ 7,200,000	\$ 2,060,111	

Local Use Tax



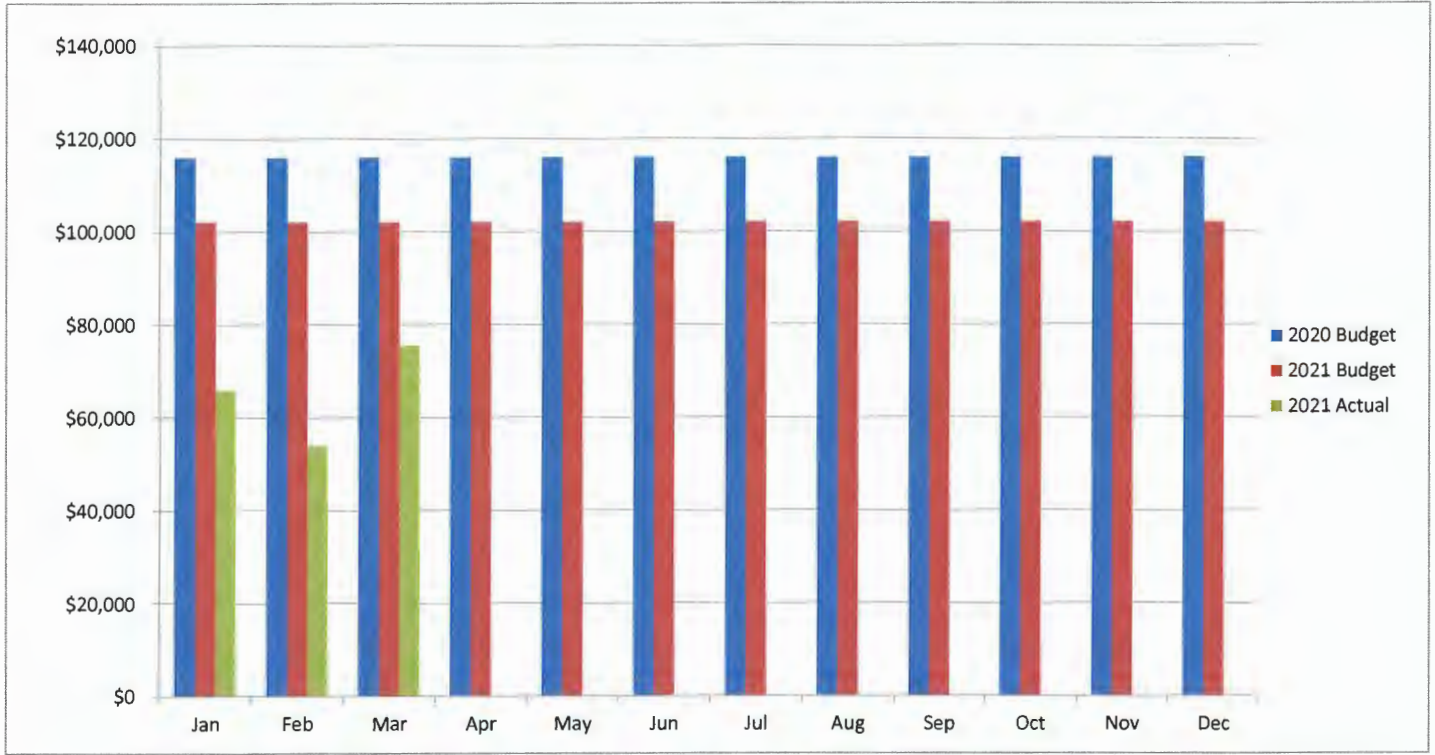
Month Received (Liability Period)	2020 Actual	2021 Budget	2021 Actual	Cumulative Variance 2021 Actual vs. Budget
Jan (Nov)	\$ 166,765	\$ 158,333	\$ 205,303	\$ 46,970
Feb (Dec)	156,234	158,333	218,776	107,412
Mar (Jan)	214,375	158,333	308,720	257,799
Apr (Feb)	148,444	158,333		
May (Mar)	129,000	158,333		
Jun (Apr)	164,096	158,333		
Jul (May)	173,719	158,333		
Aug (Jun)	193,198	158,333		
Sep (Jul)	195,046	158,333		
Oct (Aug)	197,230	158,333		
Nov (Sep)	187,809	158,333		
Dec (Oct)	195,938	158,333		
YTD Totals	\$ 2,121,851	\$ 1,900,000	\$ 732,799	

Income Tax



2019-2020			2020-2021			Cumulative Variance 2021 Actual vs. Budget	
Month Received	Liab Pd	2020 Actual	Month Received	2021 Budget	Liab Pd		2021 Actual
Jan	Dec-19	\$ 474,910	Jan	\$ 414,583	Dec-20	\$ 550,235	\$ 135,652
Feb	Jan-20	489,288	Feb	414,583	Jan-21	581,723	302,791
Mar	Feb-20	363,834	Mar	414,583	Feb-21	400,920	289,128
Apr	Mar-20	534,381	Apr	414,583	Mar-21		
May	Apr-20	523,208	May	414,583	Apr-21		
Jun	May-20	324,080	Jun	414,583	May-21		
Jul	Jun-20	514,626	Jul	414,583	Jun-21		
Aug	Jul-20	703,605	Aug	414,583	Jul-21		
Sep	Aug-20	398,672	Sep	414,583	Aug-21		
Oct	Sep-20	577,312	Oct	414,583	Sep-21		
Nov	Oct-20	390,094	Nov	414,583	Oct-21		
Dec	Nov-20	345,364	Dec	414,583	Nov-21		
YTD Totals		<u><u>\$ 5,639,374</u></u>		<u><u>\$ 4,975,000</u></u>		<u><u>\$ 1,532,878</u></u>	

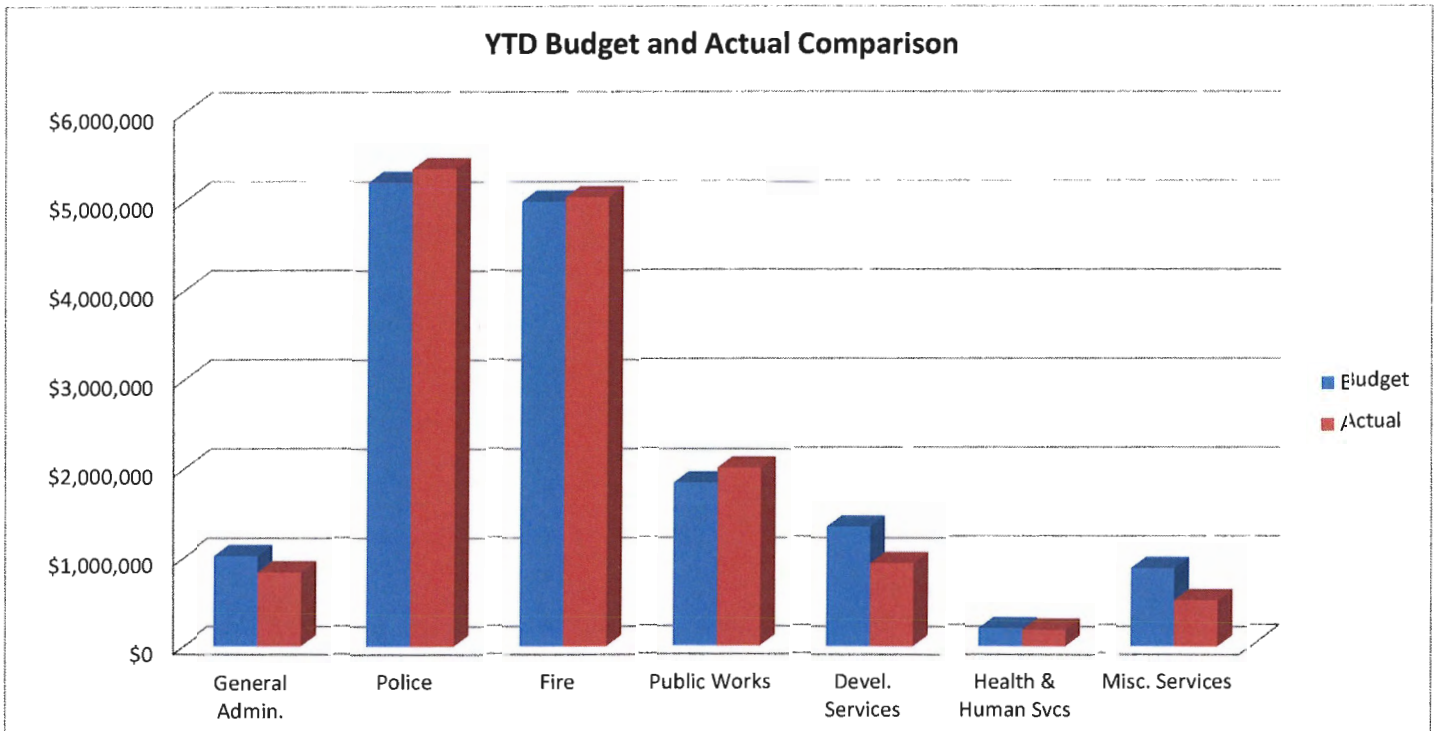
Fines



<u>Month Received</u>	<u>2020 Budget</u>	<u>2021 Budget</u>	<u>2021 Actual</u>	<u>Cumulative Variance 2021 Actual vs. Budget</u>
Jan	\$ 116,017	\$ 102,167	\$ 66,011	\$ (36,156)
Feb	116,017	102,167	54,027	(84,295)
Mar	116,017	102,167	75,644	(110,818)
Apr	116,017	102,167		
May	116,017	102,167		
Jun	116,017	102,167		
Jul	116,017	102,167		
Aug	116,017	102,167		
Sep	116,017	102,167		
Oct	116,017	102,167		
Nov	116,017	102,167		
Dec	116,017	102,167		
YTD Totals	<u>\$ 1,392,200</u>	<u>\$ 1,226,000</u>	<u>\$ 195,682</u>	

Expenditures: General Fund expenditures in March were \$1,407,157 above the budgeted figure of \$5,165,586. The summary of year-to-date actuals versus budgeted expenditures shown below reflect mostly positive variances for the Village departments for the year. Emergency Operations is over budget due to the annual Joint Emergency Management Membership Assessment payment, which happens at the beginning of every year.

EXPENDITURES	YEAR-TO-DATE	YEAR-TO-DATE	VARIANCE
	BUDGET	ACTUAL	
Legislative	\$ 102,860	\$ 74,223	27.8%
Administration	166,720	94,733	43.2%
Legal	131,638	80,125	39.1%
Finance	289,155	264,610	8.5%
Village Clerk	58,820	50,067	14.9%
HRM	139,693	118,399	15.2%
Communications	64,038	70,006	-9.3%
Cable TV	44,945	45,321	-0.8%
Emergency Operations	21,370	39,041	-82.7%
Police	5,213,780	5,366,654	-2.9%
Fire	4,995,593	5,045,835	-1.0%
Public Works	1,839,755	2,009,333	-9.2%
Development Services	1,345,213	936,604	30.4%
H&HS	202,213	187,365	7.3%
Miscellaneous	882,436	522,364	40.8%
TOTAL	\$ 15,498,226	\$ 14,904,679	3.8%



Department News

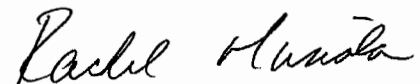
During the month of March, Finance staff attended the following training sessions:

- Attend the “Monetary Policy Under COVID-19: Action, Results, and Consequences” webinar offered by IGFOA (Finance Director).
- Attended the “Understanding and Developing Emotional Intelligence” webinar offered by IGFOA (Finance Director).
- Presented at the IGFOA Roundtable “New to a Single Audit? How to Prepare and What to Expect.” Discussion centered on how to prepare for a Single Audit given all the new funding sources municipalities may have received or will be receiving due to COVID-19 funding assistance programs (Assistant Finance Director).

Also during the month, Finance staff participated in the following events and planning meetings:

- Attended various IGFOA Professional Education Committee meetings to plan for training in the future, including the upcoming state conference (Finance Director).
- Attended the virtual Mayor’s Annual Update (Finance Director).
- Director of Finance recorded a podcast for IGFOA as part of their “Why Government Finance?” series.
- Multiple staff members from the Finance Department volunteered to assist with the vaccination clinics held at Village Hall over the past few weeks.
- Audit fieldwork began and the external auditors worked remotely reviewing all of the financial activity for FY2020.

Respectfully Submitted,



Rachel Musiala

MONTHLY REPORT STATISTICS

March-21

	Mar-21	YTD Mar-21	Mar-20	YTD Mar-20	% Inc / Dec	
					Month	Year
Credit Card Transactions						
Finance and Code Front Counter						
Number	300	704	275	1,204	9.1%	-41.5%
Amount	\$ 104,018	160,753	\$ 41,755	160,423	149.1%	0.2%
Internet Sales						
Number	2,576	7,471	2,180	6,856	18.2%	9.0%
Amount	\$ 310,512	929,624	\$ 279,462	843,220	11.1%	10.2%
Total						
Number	2,876	8,175	2,455	8,060	17.1%	1.4%
Amount	\$ 414,529	1,090,377	\$ 321,217	\$ 1,003,643	29.0%	8.6%
Credit Card Company Fees						
General Fund	\$ 37	110	\$ 763	836	-95.2%	-86.9%
Water Fund	4,428	12,732	3,360	10,304	31.8%	23.6%
Total Fees	\$ 4,465	\$ 12,842	\$ 4,123	\$ 11,140	8.3%	15.3%
Accounts Receivable						
Invoices Mailed						
Number	39	109	55	240	-29.1%	-54.6%
Amount	\$ 71,851	272,437	\$ 107,146	348,208	-32.9%	-21.8%
Invoices Paid						
Number	48	161	58	254	-17.2%	-36.6%
Amount	\$ 142,961	356,721	\$ 85,346	366,328	67.5%	-2.6%
Reminders Sent						
Number	16	52	7	56	128.6%	-7.1%
Amount	\$ 8,545	49,193	\$ 1,221	28,161	599.6%	74.7%
Accounts Payable						
Checks Issued						
Number	284	860	326	1,003	-12.9%	-14.3%
Amount	\$ 1,598,854	4,090,973	\$ 2,322,953	5,990,217	-31.2%	-31.7%
Manual Checks Issued						
Number	15	39	28	93	-46.4%	-58.1%
As % of Total Checks	5.28%	4.53%	8.59%	9.27%	-38.5%	-51.1%
Amount	\$ 31,920	84,700	\$ 37,879	120,079	-15.7%	-29.5%
As % of Total Checks	2.00%	2.07%	1.63%	2.00%	22.4%	3.3%
Utility Billing						
New Utility Accounts	81	216	121	309	-33.1%	-30.1%
Bills Mailed / Active Accounts	15,715	47,148	15,740	47,214	-0.2%	-0.1%
Final Bills Mailed	109	244	121	309	-9.9%	-21.0%
Shut-Off Notices	933	2,853	111	2,790	740.5%	2.3%
Actual Shut-Offs	-	-	-	188	N/A	-100.0%
Total Billings	\$ 1,781,425	5,415,360	\$ 1,753,402	5,433,959	1.6%	-0.3%
Direct Debit (ACH) Program						
New Accounts	73	215	57	246	28.1%	-12.6%
Total Accounts	4,954	14,716	4,450	13,199	11.3%	11.5%
As % of Active Accounts	31.52%	31.21%	28.27%	27.96%	3.3%	11.6%
Water Payments Received in Current Month						
Total Bills Mailed	15,715	47,148	15,740	47,214	-0.2%	-0.1%
ACH Payments	4,954	14,716	4,450	13,199	11.3%	11.5%
ACH Payments-% of Total Bills	31.52%	31.21%	28.27%	27.96%	11.5%	11.6%
On-line Payments (Internet Sales)	1,991	5,811	1,705	5,397	16.8%	7.7%
On-line Payments-% of Total Bills	12.67%	12.33%	10.83%	11.43%	17.0%	7.8%
Over-the-phone Payments	512	1,436	548	1,577	-6.6%	-8.9%
Over-the-phone Payments-% of Total Bills	3.26%	3.05%	3.48%	3.34%	-6.4%	-8.8%
Mail-in Payments	8,208	24,313	8,675	26,493	-5.4%	-8.2%
Mail-in Payments-% of Total Bills	52.23%	51.57%	55.11%	56.11%	-5.2%	-8.1%

WATER BILLING ANALYSIS
March 31, 2021

Residential Billings
Average Monthly Consumption/Customer

<u>Month Billed</u>	<u>2018-2019</u>	<u>2019-2020</u>	<u>2020-2021</u>
March	3,845	3,916	4,020
April	4,206	4,227	4,423
May	4,213	4,051	4,504
June	4,633	4,326	5,114
July	4,505	4,395	5,545
August	5,439	5,438	5,718
September	4,782	4,952	6,155
October	4,379	4,157	4,777
November	4,147	4,087	4,298
December	4,170	4,096	4,191
January	4,403	4,342	4,399
February	4,480	4,234	4,540
March	3,916	4,020	4,208
13 Month Average -	4,394	4,326	4,761
% Change -	-2.5%	-1.5%	10.0%

Total Water Customers

Average Bill

<u>Customer Type</u>				<u>Customer Type</u>			
	<u>Mar-20</u>	<u>Mar-21</u>	<u>% Change</u>		<u>Mar-20</u>	<u>Mar-21</u>	<u>% Change</u>
Residential	14,813	14,817	0.0%	Residential	\$ 56.99	\$ 61.33	7.6%
Commercial	927	898	-3.1%				
Total	15,740	15,715	-0.2%				

Total Consumption - All Customers (000,000's)

	<u>Month-To-Date</u>			<u>Year-To-Date</u>			
	<u>Mar-20</u>	<u>Mar-21</u>	<u>% Change</u>	<u>Mar-20</u>	<u>Mar-21</u>	<u>% Change</u>	
Residential	60	62	3.3%	Residential	187	194	3.7%
Commercial	37	34	-8.1%	Commercial	117	100	-14.5%
	97	96	-1.0%		304	294	-3.3%

STATEMENT OF INVESTMENTS-VILLAGE
As of March 31, 2021

Fund	Investment Date	Maturity Date	Book Value	Market Value	Maturity Value	Rate of Interest
<u>General Fund</u>						
Illinois Funds - General	09/30/86		7,241,544.51			0.060
Illinois Funds - Veterans Memorial	05/01/92		314.00			0.060
Veritex SDA	11/07/08		7,454,111.43			1.500
CD with PMA	08/22/13		4,850,000.00	4,850,000.00	4,862,576.87	0.375
			<u>19,545,969.94</u>			
<u>Motor Fuel Tax</u>						
Illinois Funds	09/30/86		74,943.61			0.060
Chase Money Market			4.86			
			<u>74,948.47</u>			
<u>Asset Seizure - Federal</u>						
Illinois Funds	06/09/99		4,372.16			0.060
<u>Asset Seizure - State</u>						
Illinois Funds	11/30/98		55,989.15			0.060
<u>Asset Seizure - BATTLE</u>						
Illinois Funds	07/10/08		845.45			0.060
<u>Municipal Waste System</u>						
Illinois Funds	08/31/98		7,976.68			0.060
<u>Central Road Corridor Improv.</u>						
Illinois Funds	12/15/88		9,806.54			0.060
Veritex SDA	11/07/08		3,779.96			1.500
			<u>13,586.50</u>			
<u>Hoffman Blvd Bridge Maintenance</u>						
Illinois Funds	07/01/98		11,258.70			0.060
Veritex SDA	02/10/11		259,484.21			1.500
			<u>270,742.91</u>			
<u>Western Corridor</u>						
Illinois Funds	06/30/01		38,590.59			0.060
Veritex SDA	01/07/09		3,314,899.95			1.500
			<u>3,353,490.54</u>			
<u>Prairie Stone Capital</u>						
Illinois Funds	08/22/91		774,596.93			0.060
Veritex SDA	02/10/11		91,548.91			-
			<u>866,145.84</u>			

STATEMENT OF INVESTMENTS-VILLAGE
As of March 31, 2021

Fund	Investment Date	Maturity Date	Book Value	Market Value	Maturity Value	Rate of Interest
<u>Road Improvement</u>						
Illinois Funds	01/01/15		1,792,693.90			
Chase Money Market	03/06/18		1,140,103.06			1.490
Veritex SDA			907,619.74			1.500
			3,840,416.70			
<u>Capital Improvements</u>						
Illinois Funds	12/31/96		7,505.64			0.060
Veritex SDA	01/07/09		248,511.84			1.500
			256,017.48			
<u>Capital Vehicle & Equipment</u>						
Illinois Funds	12/31/96		23,466.54			0.060
Veritex SDA	01/07/09		71,267.85			1.500
			94,734.39			
<u>Capital Replacement</u>						
Illinois Funds	02/01/98		3,316.15			0.060
Veritex SDA	11/07/08		328,491.65			1.500
			331,807.80			
<u>Water and Sewer</u>						
Illinois Funds	09/30/86		10,256.18			0.060
Veritex SDA	11/07/08		753,140.49			1.500
Chase Money Market	03/06/18		6,245,395.72			1.490
			7,008,792.39			
<u>Water and Sewer-2017 Bond Projects</u>						
Veritex SDA	09/13/17		3,085,534.52			1.500
<u>Water and Sewer-2019 Bond Projects</u>						
Veritex SDA	09/13/17		627,829.03			1.500
<u>Sears Operating</u>						
Illinois Funds			29.05			
<u>Sears Centre</u>						
H.E. Community Bank-MaxSafe			659.39			
<u>Insurance</u>						
Illinois Funds	11/10/87		16,452.51			0.060
Veritex SDA	11/07/08		2,176,491.83			1.500
			2,192,944.34			

STATEMENT OF INVESTMENTS-VILLAGE
As of March 31, 2021

Fund	Investment Date	Maturity Date	Book Value	Market Value	Maturity Value	Rate of Interest
<u>Information Systems</u>						
Illinois Funds	02/01/98		81,161.37			0.060
Veritex SDA	11/07/08		611,157.65			
			692,319.02			
<u>EDA Special Tax Alloc.</u>						
Veritex SDA	11/07/08		5,476,902.70			
Chase Money Market	03/14/19		5,601,005.38			
			11,077,908.08			
<u>Roselle Road TIF</u>						
Illinois Funds	09/30/03		7,620.50			0.060
Chase Money Market			1,000,272.12			
Veritex SDA	11/07/08		114,989.50			1.500
			1,122,882.12			
<u>Barr./Higgins TIF</u>						
Illinois Funds	08/26/91		119,128.90			0.060
Chase Money Market			200,054.44			
			319,183.34			
<u>2019 Captial Project Fund</u>						
Veritex SDA	09/13/17		27,792.66			1.500
Total Investments			\$ 54,872,917.95			
Total Invested Per Institution				Percent Invested		
Illinois Funds			10,281,869.06	18.74		
IMET			0.00	-		
IMET Convenience Fund			0.00	-		
Chase Money Market			14,186,835.58	25.85		
CD with PMA			4,850,000.00	8.84		
HE Community Bank-MaxSafe			659.39	0.00		
Bank of New York Money Market			0.00	-		
Veritex at PMA			25,553,553.92	46.57		
			\$54,872,917.95	100.00		
Total Invested Per Institution Excluding all Trust and EDA Funds				Percent Invested		
Illinois Funds			9,507,272.13	22.15		
IMET			0.00	-		
HE Community Bank-MaxSafe			659.39	0.00		
Chase Money Market			8,585,830.20	20.00		
CD with PMA			4,850,000.00	11.30		
Veritex at PMA			19,985,102.31	46.55		
			\$42,928,864.03	100.00		

STATEMENT OF INVESTMENTS-VILLAGE As of March 31, 2021
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Fund	Investment Date	Maturity Date	Book Value	Market Value	Maturity Value	Rate of Interest
Total Invested Per Fund						
Total Investments - Operating Funds				\$42,104,819.58		
Total Investments - Debt Service Funds				\$0.00		
Total Investments - Trust Funds				\$0.00		
Total Investments - Capital Projects Funds				\$12,768,098.37		
Total Investments - All Funds				\$54,872,917.95		

OPERATING REPORT SUMMARY

REVENUES

March 31, 2021

	<u>CURRENT MONTH</u>		<u>YEAR-TO-DATE</u>		<u>ANNUAL BUDGET</u>	<u>% ACTUAL TO BUDGET</u>	<u>BENCH-MARK</u>
	<u>BUDGET</u>	<u>ACTUAL</u>	<u>BUDGET</u>	<u>ACTUAL</u>			
General Fund							
Property Taxes	7,500,000	4,155,230	8,500,000	5,314,220	16,314,510	32.6%	
Hotel Tax	83,333	32,353	250,000	92,510	1,000,000	9.3%	
Real Estate Transfer Tax	85,417	79,495	256,250	181,238	1,025,000	17.7%	
Home Rule Sales Tax	250,000	356,150	750,000	889,124	3,000,000	29.6%	
Telecommunications Tax	92,000	87,837	276,000	252,379	1,104,000	22.9%	
Property Tax - Fire	1,760,000	1,303,032	2,010,000	1,668,553	4,287,700	38.9%	
Property Tax - Police	2,103,835	1,527,696	2,403,835	1,957,126	5,437,670	36.0%	
Other Taxes	83,382	55,706	250,145	147,951	1,000,580	14.8%	
Total Taxes	11,957,967	7,597,499	14,696,230	10,503,102	33,169,460	31.7%	
Business Licenses	25,000	26,136	25,000	33,618	350,000	9.6%	
Liquor Licenses	10,000	7,430	10,000	7,430	275,000	2.7%	
Building Permits	89,583	50,114	268,750	105,689	1,075,000	9.8%	
Other Licenses & Permits	917	205	2,750	644	11,000	5.9%	
Total Licenses & Permits	125,500	83,884	306,500	147,380	1,711,000	8.6%	
Sales Tax	600,000	789,650	1,800,000	2,060,110	7,200,000	28.6%	
Local Use Tax	158,333	308,720	475,000	732,799	1,900,000	38.6%	
State Income Tax	414,583	400,920	1,243,750	1,532,878	4,975,000	30.8%	
Replacement Tax	20,983	16,232	62,950	66,558	251,800	26.4%	
Other Intergovernmental	46,409	148,621	139,228	195,745	556,910	35.1%	
Total Intergovernmental	1,240,309	1,664,142	3,720,928	4,588,091	14,883,710	30.8%	
Engineering Fees	25,000	21,939	75,000	21,939	300,000	7.3%	
Ambulance Fees	182,500	137,342	547,500	385,733	2,190,000	17.6%	
Police Hireback	31,250	52,797	93,750	128,846	375,000	34.4%	
Lease Payments	42,204	97,228	126,613	227,007	506,450	44.8%	
Cable TV Fees	-	-	190,000	178,067	765,000	23.3%	
4th of July Proceeds	-	-	-	-	87,750	0.0%	
Employee Payments	133,333	155,656	400,000	445,890	1,600,000	27.9%	
Hireback - Arena	12,146	-	36,438	-	145,750	0.0%	
Rental Inspection Fees	-	6,611	125,000	206,805	275,000	75.2%	
Other Charges for Services	73,458	82,417	220,375	248,444	881,500	28.2%	
Total Charges for Services	499,892	553,990	1,814,675	1,842,731	7,126,450	25.9%	
Court Fines-County	10,000	-	30,000	-	120,000	0.0%	
Ticket Fines-Village	29,167	17,635	87,500	40,860	350,000	11.7%	
Overweight Truck Fines	500	80	1,500	760	6,000	12.7%	
Red Light Camera Revenue	54,167	56,998	162,500	143,539	650,000	22.1%	
Local Debt Recovery	8,333	931	25,000	10,523	100,000	10.5%	
Total Fines & Forfeits	102,167	75,644	306,500	195,681	1,226,000	16.0%	
Total Investment Earnings	22,917	1,573	68,750	4,697	275,000	1.7%	
Reimburse/Recoveries	12,500	24,329	37,500	31,033	150,000	20.7%	
S.Barrington Fuel Reimbursement	2,500	2,372	7,500	6,706	30,000	22.4%	
Shaumburg Twn Fuel Reimbursement	2,500	1,829	7,500	5,409	30,000	18.0%	
Tollway Payments	-	1,900	-	3,700	-	N/A	
Other Miscellaneous	19,258	3,899	57,775	12,865	231,100	5.6%	
Total Miscellaneous	36,758	34,330	110,275	59,714	441,100	13.5%	
Total Operating Transfers In	87,833	109,253	263,500	298,300	1,054,000	28.3%	
Total General Fund	14,073,343	10,120,314	21,287,358	17,639,696	59,886,720	29.5%	25.0%

**OPERATING REPORT SUMMARY
REVENUES**

March 31, 2021

	<u>CURRENT MONTH</u>		<u>YEAR-TO-DATE</u>		<u>ANNUAL BUDGET</u>	<u>% ACTUAL TO BUDGET</u>	<u>BENCH- MARK</u>
	<u>BUDGET</u>	<u>ACTUAL</u>	<u>BUDGET</u>	<u>ACTUAL</u>			
Water & Sewer Fund							
Water Sales	1,664,496	1,460,357	4,993,488	4,444,196	19,973,950	22.2%	
Connection Fees	1,667	-	5,000	-	20,000	0.0%	
Cross Connection Fees	3,167	3,231	9,500	9,688	38,000	25.5%	
Penalties	8,333	8,516	25,000	22,491	100,000	22.5%	
Investment Earnings	3,333	45	10,000	126	40,000	0.3%	
Other Revenue Sources	6,292	3,125	18,875	9,133	75,500	12.1%	
Capital Projects	-	58	-	172	2,005,000	0.0%	
Total Water Fund	1,687,288	1,475,331	5,061,863	4,485,807	22,252,450	20.2%	25.0%
Motor Fuel Tax Fund	248,917	711,830	746,750	1,034,280	2,987,000	34.6%	
Community Dev. Block Grant Fund	53,415	-	160,245	31,599	640,980	4.9%	
Asset Seizure Fund	83	40,442	250	51,433	1,000	5143.3%	
Municipal Waste System Fund	244,766	266,116	734,298	731,430	2,937,190	24.9%	
NOW Arena Operating Fund	352,152	326,206	1,056,455	1,020,251	4,225,820	24.1%	
NOW Arena Activity Fund	397,443	175,321	1,192,328	503,140	4,769,310	10.5%	
Stormwater Management	69,617	46,501	208,850	137,934	835,400	16.5%	
Insurance Fund	133,582	124,522	400,745	373,563	1,602,980	23.3%	
Roselle Road TIF	25,167	117,949	75,500	75,285	302,000	69.6%	
Barrington/Higgins TIF	50,478	310,729	151,435	310,749	605,740	51.3%	
Lakewood Center TIF	33,466	-	100,398	-	401,590	0.0%	
Higgins-Old Sutton TIF	3,587	-	10,760	-	43,040	0.0%	
Higgins/Hassell TIF	25,013	448,430	75,038	448,430	300,150	149.4%	
Information Systems	111,454	109,901	334,363	329,231	1,337,450	24.6%	
Total Spec Rev. & Int. Svc. Fund	1,749,138	2,677,947	5,247,413	5,182,324	20,989,650	24.7%	
TOTAL OPERATING FUNDS	17,509,768	14,273,593	31,596,633	27,307,827	103,128,820	26.5%	25.0%
2015A & C G.O. Debt Service	-	-	-	-	3,576,650	0.0%	
2015B G.O. Debt Service	-	-	-	-	123,900	0.0%	
2016 G.O. Debt Service	161,092	161,092	206,025	206,025	436,700	0.0%	
2017A & B G.O. Debt Service	-	-	-	-	177,550	0.0%	
2018 G.O. Debt Service	407,011	407,011	535,119	535,119	2,863,200	0.0%	
2019 G.O. Debt Service	-	-	-	-	136,700	0.0%	
TOTAL DEBT SERV. FUNDS	568,104	568,104	741,144	741,144	7,314,700	10.1%	25.0%
Central Rd. Corridor Fund	17	1	50	2	200	1.1%	
Hoffman Blvd Bridge Maintenance	125	5	375	15	1,500	1.0%	
Western Corridor Fund	62,500	58	187,500	176	750,000	0.0%	
Prairie Stone Capital Fund	833	41	2,500	148	10,000	1.5%	
Central Area Rd. Impr. Imp. Fee	13	-	38	-	150	0.0%	
Capital Improvements Fund	149,675	274,362	449,025	702,157	1,796,100	39.1%	
Capital Vehicle & Equipment Fund	63,577	63,481	190,730	190,445	762,920	25.0%	
Capital Replacement Fund	167	6	500	17	2,000	0.8%	
2015 Project Fund	-	0	-	1	-	N/A	
Road Improvement Fund	549,050	330,774	1,647,150	2,171,241	6,588,600	33.0%	
TOTAL CAP. PROJECT FUNDS	825,956	668,727	2,477,868	3,064,203	9,911,470	30.9%	25.0%
Police Pension Fund	583,839	6,287,537	1,751,518	6,847,467	7,006,070	97.7%	
Fire Pension Fund	513,008	3,901,656	1,539,025	4,407,228	6,156,100	71.6%	
TOTAL TRUST FUNDS	1,096,848	10,189,193	3,290,543	11,254,695	13,162,170	85.5%	25.0%
TOTAL ALL FUNDS	20,000,674	25,699,616	38,106,186	42,367,869	133,517,160	31.7%	25.0%

**OPERATING REPORT SUMMARY
EXPENDITURES
March 31, 2021**

	<u>CURRENT MONTH</u>		<u>YEAR-TO-DATE</u>		<u>ANNUAL BUDGET</u>	<u>%</u>	<u>BENCH- MARK</u>
	<u>BUDGET</u>	<u>ACTUAL</u>	<u>BUDGET</u>	<u>ACTUAL</u>			
General Fund							
General Admin.							
Legislative	34,287	27,873	102,860	74,223	411,440	18.0%	
Administration	55,573	47,068	166,720	94,733	666,880	14.2%	
Legal	43,879	45,889	131,638	80,125	526,550	15.2%	
Finance	96,385	94,208	289,155	264,610	1,156,620	22.9%	
Village Clerk	19,607	17,557	58,820	50,067	235,280	21.3%	
Human Resource Mgmt.	46,564	46,519	139,693	118,399	558,770	21.2%	
Communications	21,346	23,298	64,038	70,006	256,150	27.3%	
Cable TV	14,982	21,418	44,945	45,321	179,780	25.2%	
Emergency Operations	7,123	3,559	21,370	39,041	85,480	45.7%	
Total General Admin.	339,746	327,389	1,019,238	836,524	4,076,950	20.5%	25.0%
Police Department							
Administration	126,184	156,323	378,553	344,455	1,514,210	22.7%	
Juvenile Investigations	50,618	84,998	151,855	157,380	607,420	25.9%	
Tactical	101,305	160,448	303,915	302,544	1,215,660	24.9%	
Patrol and Response	1,043,244	1,747,418	3,129,733	3,397,544	12,518,930	27.1%	
Traffic	98,136	134,913	294,408	244,104	1,177,630	20.7%	
Investigations	131,437	207,794	394,310	415,881	1,577,240	26.4%	
Community Relations	542	-	1,625	-	6,500	0.0%	
Communications	47,509	-	142,528	142,527	570,110	25.0%	
Canine	17,853	28,824	53,558	56,487	214,230	26.4%	
Special Services	14,937	8,387	44,810	9,714	179,240	5.4%	
Records	25,927	24,578	77,780	72,288	311,120	23.2%	
Administrative Services	80,236	74,572	240,708	223,730	962,830	23.2%	
Total Police	1,737,927	2,628,255	5,213,780	5,366,654	20,855,120	25.7%	25.0%
Fire Department							
Administration	76,858	72,436	230,575	170,924	922,300	18.5%	
Public Education	6,322	6,511	18,965	12,524	75,860	16.5%	
Suppression	818,720	1,201,004	2,456,160	2,491,374	9,824,640	25.4%	
Emer. Med. Serv.	709,165	1,110,929	2,127,495	2,247,373	8,509,980	26.4%	
Prevention	50,766	20,862	152,298	113,277	609,190	18.6%	
Fire Stations	3,367	9,009	10,100	10,364	40,400	25.7%	
Total Fire	1,665,198	2,420,751	4,995,593	5,045,835	19,982,370	25.3%	25.0%
Public Works Department							
Administration	31,975	30,151	95,925	88,608	383,700	23.1%	
Snow/Ice Control	153,408	231,211	460,223	981,448	1,840,890	53.3%	
Pavement Maintenance	44,018	28,970	132,053	79,533	528,210	15.1%	
Forestry	90,138	56,111	270,413	159,676	1,081,650	14.8%	
Facilities	96,732	68,220	290,195	191,635	1,160,780	16.5%	
Fleet Services	100,697	125,124	302,090	279,677	1,208,360	23.1%	
F.A.S.T.	16,208	9,394	48,625	28,134	194,500	14.5%	
Storm Sewers	14,422	10,185	43,265	29,672	173,060	17.1%	
Traffic Control	65,656	78,302	196,968	170,950	787,870	21.7%	
Total Public Works	613,252	637,669	1,839,755	2,009,333	7,359,020	27.3%	25.0%

OPERATING REPORT SUMMARY
EXPENDITURES
March 31, 2021

	<u>CURRENT MONTH</u>		<u>YEAR-TO-DATE</u>		<u>ANNUAL BUDGET</u>	<u>%</u>	<u>BENCH-MARK</u>
	<u>BUDGET</u>	<u>ACTUAL</u>	<u>BUDGET</u>	<u>ACTUAL</u>			
Development Services							
Administration	35,212	32,929	105,635	96,694	422,540	22.9%	
Planning & Transportation	53,233	47,342	159,698	136,563	638,790	21.4%	
Code Enforcement	134,493	123,525	403,480	362,043	1,613,920	22.4%	
Engineering	101,606	88,619	304,818	264,842	1,219,270	21.7%	
Economic Development	123,861	21,313	371,583	76,462	1,486,330	5.1%	
Total Development Services	448,404	313,728	1,345,213	936,604	5,380,850	17.4%	25.0%
Health & Human Services	67,404	70,805	202,213	187,365	808,850	23.2%	25.0%
Miscellaneous							
4th of July	-	-	1,469	1,469	155,070	0.9%	
Police & Fire Comm.	8,513	426	25,540	518	102,160	0.5%	
Misc. Boards & Comm.	20,299	7,155	60,898	21,162	243,590	8.7%	
Misc. Public Improvements	264,843	166,564	794,530	499,215	3,178,120	15.7%	
Total Miscellaneous	293,656	174,145	882,436	522,364	3,678,940	14.2%	25.0%
Total General Fund	5,165,586	6,572,743	15,498,226	14,904,679	62,142,100	24.0%	25.0%
Water & Sewer Fund							
Water Department	1,102,568	997,262	3,307,703	2,997,481	13,230,810	22.7%	
Sewer Department	192,333	161,693	577,000	460,377	2,308,000	19.9%	
Billing Division	73,483	66,293	220,448	208,484	881,790	23.6%	
Capital Projects Division	13,854	13,854	149,694	149,694	3,560,860	4.2%	
2015 Bond Capital Projects	-	-	-	-	422,500	0.0%	
2017 Bond Capital Projects	238,087	238,087	238,087	238,087	1,435,620	16.6%	
2018 Bond Capital Projects	-	-	-	-	247,640	0.0%	
2019 Bond Capital Projects	182,723	182,723	182,723	182,723	622,530	29.4%	
Total Water & Sewer	1,803,047	1,659,912	4,675,654	4,236,846	22,709,750	18.7%	25.0%
Motor Fuel Tax	161,283	161,283	1,576,900	1,576,900	3,480,000	45.3%	
Community Dev. Block Grant Fund	5,662	5,662	15,667	15,667	585,550	2.7%	
Asset Seizure Fund	23,791	43,370	71,373	100,514	285,490	35.2%	
Municipal Waste System	248,263	247,511	744,788	554,793	2,979,150	18.6%	
NOW Arena Operating Fund	357,765	269,404	1,073,295	629,484	4,293,180	14.7%	
NOW Arena Activity Fund	397,443	217,608	1,192,328	371,000	4,769,310	7.8%	
Stormwater Management	42,354	-	127,063	-	508,250	0.0%	
Insurance	147,810	35,784	443,430	935,691	1,773,720	52.8%	
Information Systems	145,621	165,576	436,863	323,932	1,747,450	18.5%	
Roselle Road TIF	139,003	-	417,010	-	1,668,040	0.0%	
Barrington/Higgins TIF	1,087	-	3,260	-	13,040	0.0%	
Lakewood Center TIF	33,466	-	100,398	-	401,590	0.0%	
Higgins-Old Sutton TIF	3,587	-	10,760	-	43,040		
Higgins/Hassell TIF	420	448,430	1,260	448,430	5,040	8897.4%	
TOTAL OPERATING FUNDS	8,676,187	9,827,283	26,388,272	24,097,936	107,404,700	22.4%	25.0%
2015A G.O. Debt Service	-	-	-	-	3,576,650	0.0%	
2015 G.O. Debt Service	-	-	-	-	123,900	0.0%	
2016 G.O. Debt Service	-	-	-	-	437,200	0.0%	
2017A & B G.O. Debt Service	-	-	-	-	177,550	0.0%	
2018 G.O. Debt Service	-	-	-	-	2,863,200	0.0%	
2019 G.O. Debt Service	-	-	-	-	136,700	0.0%	
TOTAL DEBT SERV. FUNDS	-	-	-	-	7,315,200	0.0%	25.0%

**OPERATING REPORT SUMMARY
EXPENDITURES
March 31, 2021**

	<u>CURRENT MONTH</u>		<u>YEAR-TO-DATE</u>		<u>ANNUAL BUDGET</u>	<u>%</u>	<u>BENCH- MARK</u>
	<u>BUDGET</u>	<u>ACTUAL</u>	<u>BUDGET</u>	<u>ACTUAL</u>			
Western Corridor Fund	33,333	33,333	100,000	99,999	400,000	25.0%	
Prairie Stone Capital	56,667	13,595	170,000	18,595	680,000	2.7%	
Western Area Traffic Imp.	-	-	-	3,638	-	N/A	
Capital Improvements Fund	168,444	87,429	505,333	262,287	2,021,330	13.0%	
Capital Vehicle & Equipment Fund	63,477	1,555	190,430	201,228	761,720	26.4%	
Capital Replacement Fund	58,333	58,333	175,000	174,999	700,000	25.0%	
2015 Project Fund	-	17,198	-	17,198	-	N/A	
Road Improvement Fund	554,635	29,195	1,663,905	29,195	6,655,620	0.4%	
TOTAL CAP. PROJECT FUNDS	934,889	240,638	2,804,668	807,139	11,218,670	7.2%	25.0%
Police Pension Fund	613,029	659,355	1,839,088	1,936,090	7,356,350	26.3%	
Fire Pension Fund	553,209	641,856	1,659,628	1,766,412	6,638,510	26.6%	
TOTAL TRUST FUNDS	1,166,238	1,301,210	3,498,715	3,702,502	13,994,860	26.5%	25.0%
TOTAL ALL FUNDS	10,777,315	11,369,132	32,691,655	28,607,577	139,933,430	20.4%	25.0%



2021 MARCH MONTHLY REPORT

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March Synopsis

- It was requested that we enable the option to suppress printing of Paycheck Vouchers and email staff when their checks were available in EAC. This was set up and implemented successfully for a test group of employees and will be expanded to include all employees in April.
- Work continued on the Community Development implementation and some progress was made by the end of the month.
- Began work on redevelopment of Network Access Form for sections applicable to Business Applications.

CentralSquare/GovQA Support Cases

- Requested new user set up for CentralSquare applications and sent user instructions for accessing Community Development.
- Worked with GovQA Support to design link to Public Records to be implemented in the near future.
- Open and closed case to refresh the PLUS training databases.
- Open and closed two cases to reset users passwords.
- Open and closed case to add two Development Services Employees in PLUS because their accounts were disabled.
- Created two SQL scripts to update RRL License Deadline date.
- Open and closed case related to error message when clicking on the link in the email to approve an employee's time off.
- Open and closed case related to users not being able to access PLUS applications.

Project Activities

- We worked with Community Development staff in various departments to work through the issues that holding up the progression we expected in this project.
- Followed up with various CST staff to obtain quote for reports within the various Community Development applications.
- Worked on the Land Management Update Routine workbook after emails and a meeting to clarify what the various options mean.
- Tested emailing from within the application many times to determine if it was working correctly. They were finally able to get the emails to send, but there are still issues with the process.
- Resolved the issue with the report header not displaying Hoffman Estates.

- Learned the steps needed to create a new user in Community Development by attending review session with CST Consultant.
- Created Test Cases for Front Counter Staff to process permits in Community Development.
- Attended a session on how to add users to Community Development.
- Met with Conversion Specialist on finalizing the Land Management Update Routine document.
- Tested workflows related to email notifications and worked on trouble shooting error message.

Work Orders

- Developed report of Storm Water Service Accounts in UB for Finance and Engineering Departments.
- Assisted Clerk's Office Staff in procedure to change Zip Code on a Location record.
- Extracted Google Analytics data on GovQA usage.
- Created two SQL scripts to update RRL License Deadline date.
- Add two locations per Development Services.
- Add location per Fire Administration.
- Assisted Public Works employee with password reset.
- Assisted Fire Department employee with password reset.
- Assisted two Development Services employees with getting access to PLUS products.
- Followed up with CentralSquare as to why the two Development Services employees never received their encrypted email.
- Made necessary changes to Requisitions/Purchase orders access and purchasing defaults for Development Service per Finance.
- Added assignment to new Development Services employee in order for them to submit an employee leave request.
- Showed the Deputy Village Clerk on how to print licenses using form easy.
- Process Business Licenses, Liquor Licenses, and Home Business License renewals and made updates to the Cognos letters.
- Made updates to the General Contractor Letters and identified the GC licenses that needed adjustments.
- Researched why Finance was unable to create a Final Bill for one UB account. Assisted Finance in recreating Final Bill in Training environment in order to generate correct calculation.
- Assisted Fire Administration employee on how to add multiple plan reviews in the permit application of PLUS.
- Cleaned up restrictions in GovQA for two Development Services employee.
- Added additional recipients to the DS Employee Leave Balance Report.
- Assisted Finance in how to update address on UB accounts that had incorrect address.

- Created a new Cognos report to handle a Business License account that needs to have old penalties carried forward on their invoice.
- Created a new Cognos report to show what Business Licenses have a zero fee exemption on their licenses.
- Applied General Premises licenses penalties.
- Applied Pet Licensing penalties.
- Applied Residential Rental Licensing penalties.
- Created a Cognos Report for Development Services employee to just see their employees leave requests.
- Assisted users having an issue approving leave requests through the link in the email by showing them how to log into FinancePLUS and check under their activities.
- Added a new Violation to the Fire and Safety Application.
- Added new location per front counter.
- User had issue seeing changes to a Cognos report. They were running the old version in “my folders”. Instructed that changes to a Cognos report does not reflect in their “my folders” and they need to resave the changes made back into “my folders”.
- Issue running Cognos in Chrome for one Development Services staff, users profile needed to be recreated.

Administration

- Prepared monthly report.
- Processed Payroll for department employees on 3/8/21 and 3/22/21.

Training

- Attended User Maintenance Training with CST Consultant.
- Met with Finance Department staff to review the processing of pay vouchers via email and the use of the reports created to maintain staff opt-outs.

Meetings

- Virtual Meetings with IS Director on March 4, 8, and 22.
- Attended Community Development Status meeting.
- Attended several meetings related to the issue with workflow and emails in Community Development.
- Attended a webinar on Licensing in Community Development.
- Attended meeting with our Customer Success Manager.

March Synopsis

- *CSQR Community Development*: A meeting with CSQR staff to go over the Update Routine document occurred in March. The document was filled out to the best of our knowledge, but several items will need follow up. Ownership info was recommended to be updated on a nightly basis. Unfortunately, this and all existing GIS issues are on hold until larger issues with the CD configuration are addressed. In the meantime, I contacted Pete in DS to start a conversation about notifications for GIS updates. CD will provide a number of opportunities to streamline the updating of GIS data. This will be discussed further in a meeting next month.
- *Hoffnet*: Both the West Area and Emergency mgmt. maps were removed from Hoffnet due to low usage. Additional maps might be removed if usage rates continue to decline. The Planning & Zoning map had a minor request to adjust zoning symbol transparency. Next month we will look to add feature totals to feature pop-ups.
- *PW-GIS Integration*: We began our integration project by drafting a spreadsheet to assess the overall number of maps in Sean's AGO account, both in use and obsolete. A tab of users and logins was compiled alongside this information. We will use this to determine which maps we can delete and who will need to be notified once the remaining maps are remade. After reviewing the document with Sean, we determined that a number of maps could be deleted. We were also able to determine how to move forward with upgrading the most used maps.

Work Orders

- Webmap Request: adjust zoning transparency of Hoffnet P&Z (DS-P)
- Webmap Request: sidewalk inspection annual update (PW)
- Webmap Request: PW-GIS: delete unnecessary and obsolete maps (GIS)
- Webmap Request: adopt-a-hydrant map for website (FD)
- Webmap Request: add globalID to owner table in data service (CSQR)
- Map Request: fire mapbook updates (FD)
- Map Request: hydrant maps for flushing reference (PW)
- Map Request: new police mapbook and new street index (PD)
- Data Request: total water main valves (PW)
- Data Request: total asset mileage (PW)
- Data Request: hydrants on 4" main (PW)
- Data Request: fire hydrant export for Palatine PD (FD)

Administration

- Monthly report
- Contractors contacted for dwgs: Watermark/Buona Beef, KH/Amita, Woolpert/Harris Bank, South Barrington/39 Barrington Rd
- DS-Planning staff intro to Village GIS resources and bike specific data
- PW-GIS step 2 implementation
- Engineering plotter troubleshooting; reloaded roll

Training

- N/A

Meetings

- Bi-Weekly w/F. Besenhoffer (3/8, 3/22)
- CSQR Land Mgmt Update Routine document review (3/3)
- GIS dashboards w/F. Besenhoffer (3/4)
- New DS employees GIS intro (3/12)
- GIS updates w/ S.Diatte (3/30)

Project – Motorola P1

- During the month of March, I.S. staff continued to work on Motorola P1 CAD system. The main task that needed to be accomplished before go-live was mobile agents and clients upgrades. In addition to software updates, I.S. Staff assisted our Fire Department and Police Departments in pre-go live system checkup and testing. Multiple vehicles from each NWCD agencies were involved in order to shake down the system and identify any lurking problems. On Tuesday March 30, NWCD performed cutover to the new Motorola P1 system. The change-over went smoothly and there were no major issues with CAD or connectivity of the system. I.S. staff continues to monitor the situation as we move to the stabilization phase of the project.

Project – Switch Stack

- During the month of March, I.S. Staff installed and reconfigured new switches located in the south wiring closet at the Village Hall. The equipment in that location was past its warranty and needed to be upgraded. This particular IDF serves our Finance, Code and General Government Departments. The switch upgrade was performed after hours and did not affect any productivity.

Project – File Cluster

- I.S. Staff installed and configured two new servers that are designated to run new file cluster service. The replaced servers were past their warranty and needed to be replaced. New File Cluster Service was configured and installed on the new servers. The file cluster service was migrated and it was done with no impact on user's productivity.

Project – Domain Controller

- I.S. Department is dedicated to improving redundancy and reliability of the services we provide. During the month of March, I.S. Staff were able to relocate one of our domain controllers to the Police Department. In case of catastrophic failure, this configuration will help with user logins and will be able to provide authentication services in case we lose our primary site.

Security and Other Updates

- I.S. Staff installed additional monitors at the PD's front desk for the new Motorola P1 system.
- I.S. Staff begun testing dual NAS configuration for Hyper-V environment.
- I.S. Staff begun evaluating Nessus network vulnerability assessment suite.
- I.S. Staff assisted Fire Department with the new vehicle installation and subsequent vehicle relocations.
- I.S. Staff finished iDrac configuration on our servers.
- I.S. Staff moved Laserfiche forms to the new server.
- I.S. Staff updated licensing for Laserfiche server.
- I.S. Staff worked with representatives from CentralSquare on automated email issue.
- I.S. Staff worked on power issue at our NowArena. The power issue resulted in taking down south side CCTV cameras and it was rectified within two days.
- I.S. Staff upgraded firmware on all HP copiers located in the Village Hall.
- I.S. Staff continues monitor and update Windows Servers with patches, updates and other security installations.
- I.S. Staff continues to update and monitor anti-virus system to ensure at most reliability and safety.
- I.S. Staff continues to monitor and adjust if necessary all of our backup jobs.
- I.S. Staff updated and reorganized our network documentation in order to reflect new changes.
- I.S. Staff continues to deploy KnowBe4 email campaign.
- I.S. Staff performed general WSUS Update and service cleanup.

Training

- I.S. Staff conducted one new user orientation meetings for our new employees.

Meetings

- I.S. Staff attended FortiNAC demo.
- I.S. Staff attended FortiEDR demo.
- I.S. Staff attended Fortigate firewall demo.
- I.S. Staff met with representatives from Public Works to discuss power upgrades to server room located at the Village Hall.
- I.S. Staff met and discussed on-going and future projects.

Technical Support, Hardware & Software Activities

- Applied necessary software updates as needed.
- 218 Help desk requests were opened during the month of March.
- 188 Help desk requests were closed during the month of March.
- Self Service Password Resets or Account Unlocks: 4
- Email passwords reset: 0
- SunGard passwords reset: 2
- Voicemail passwords reset:
- User accounts unlocked: 5
- Active Directory Password Resets: 4

Director Summary

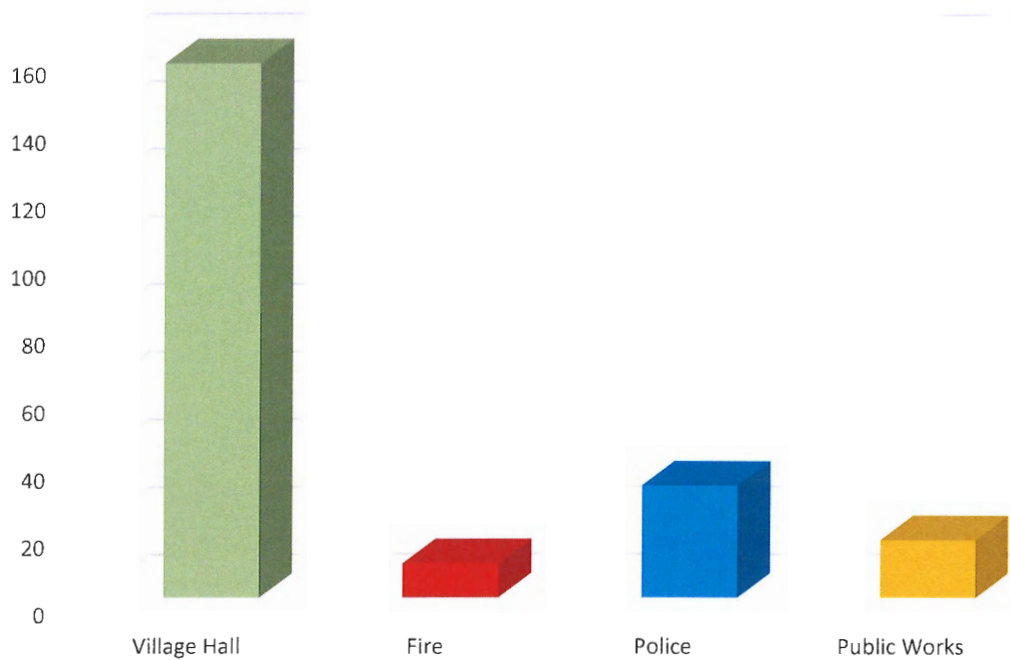
- Covid – 19 conference calls with the EOC team.
- Project status with CentralSquare
 - Project update status
 - Invoicing
- Participated in NIU's the PSPA final presentation/Marc Thorsen
- Attended the Mayor's annual update breakfast
- Meeting with Facilities personnel to discuss the Server room power issue
- Monthly department status meeting with the Village Manager
- Met with our Dell EMC representative to discuss storage
- Product demonstration; FortinetNAC and EDR

- Continued the contract review discussions for the Microsoft EA and SA renewal agreements.
- Quarterly ETAC meeting
- Monthly agenda meeting with the Village Manager
- Management team meeting
- Bi Weekly department division meetings
 - Project progress
 - Division Goals Review
- Monthly MS-ISAC/EI-ISAC conference call.

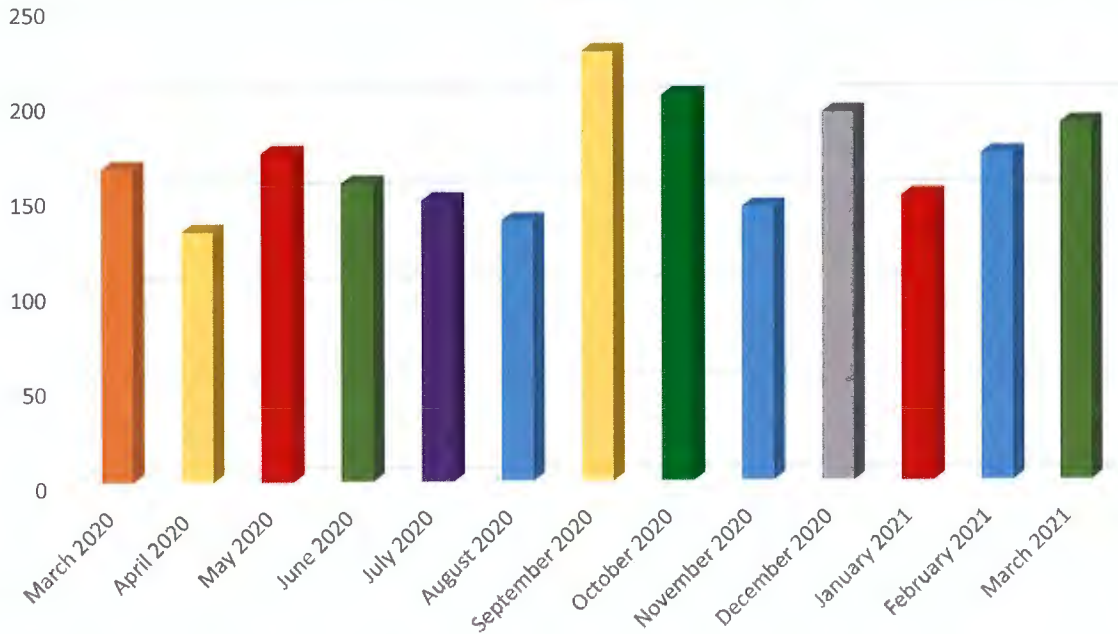
Total Work Orders by Priority by Month

Month	March
1 - Normal	181
2 - High	13
3 - Urgent	0
Project	4
Scheduled Event	20
Vendor intervention required	0
Total for Month	218

Completed Work Orders by Location



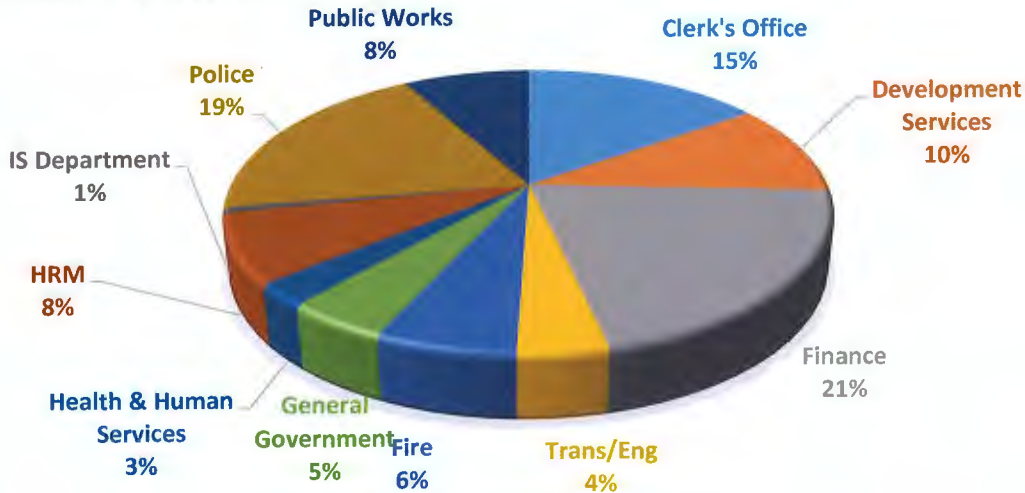
Completed Work Orders by Month



Printer Usage Report

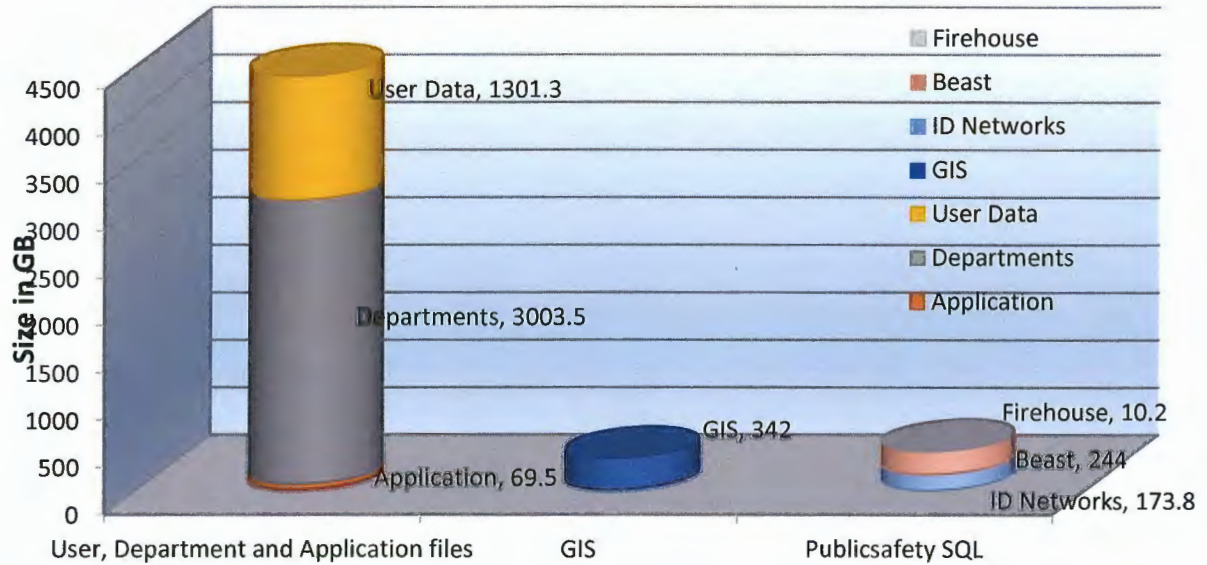
In the month of March there were 39267 pages printed across the village. The following graph breaks down printer usage by department.

PAGES PRINTED



System and Data Functions

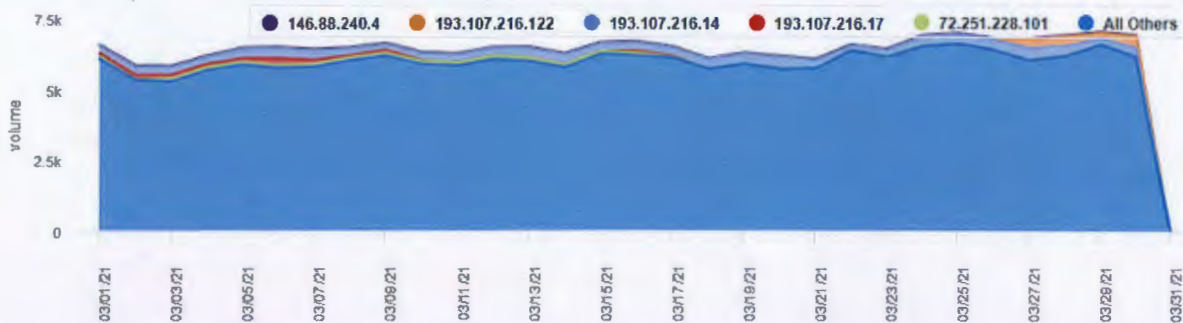
Disk Usage



Sentinel IPS Attack Report

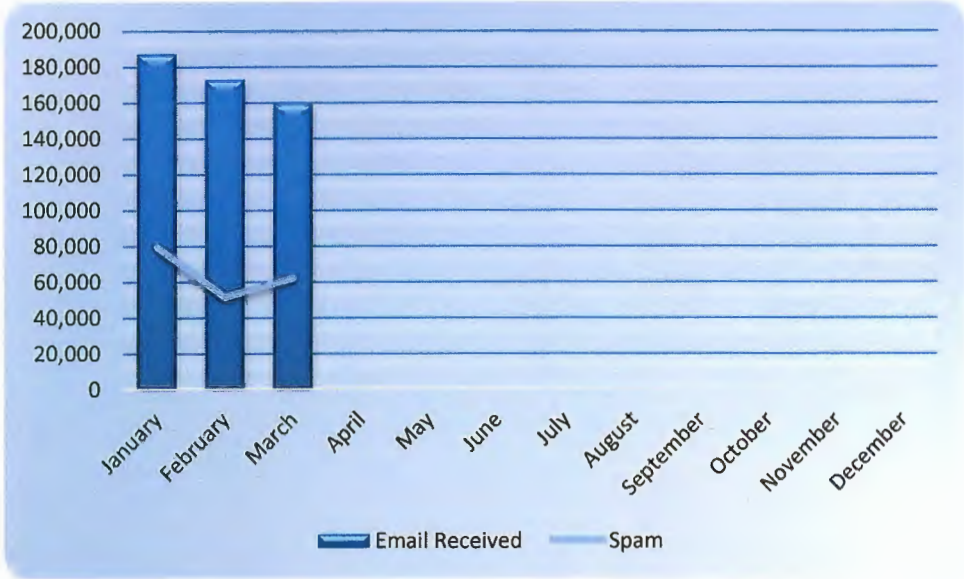
External parties attacked the Village network 194251 times during the month of March

Attack Volume with 5 Most Active IP Addresses



Email Spam Report

Month	Email Received	Spam	Percent Spam
January	187,111	79,512	42%
February	172,771	51,487	30%
March	159,128	62,175	39%
April			0%
May			0%
June			0%
July			0%
August			0%
September			0%
October			0%
November			0%
December			0%
Total	519,010	193,174	37%



Phishing Security Test Report

02/25/2021 - 04/01/2021

Campaign: Monthly Test

Groups: All users

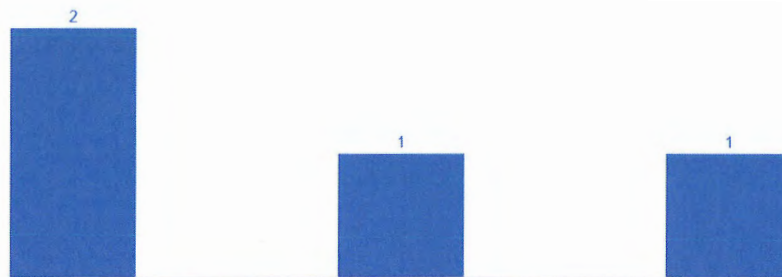
Statistics

See report at <https://training.knowbe4.com>

1.3%	308	308	4	0	0	0	0
Phish-prone Percentage	Recipients	Delivered	Clicks	Attachment Opened	Data Entered	Other Failures	Bounces

Phish-prone Percentage is calculated from the total number of phishing test failures divided by the number of emails delivered.

Clicks by day



Phishing Email Sent

03/19/2021

See report at <https://training.knowbe4.com>

Phishing email was sent to 308 recipients. Each recipient received a different email. Go to this Phishing Security Test's [users](#) page to see which user received which email.

Fred Besenhoffer, Director of Information Systems

VILLAGE OF HOFFMAN ESTATES

Memo

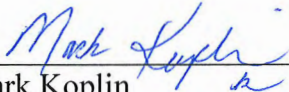
TO: Finance Committee
FROM: Mark Koplin, Owner's Representative-NOW Arena
RE: **OWNER'S REPRESENTATIVE MONTHLY REPORT
APRIL 2021**
DATE: April 23, 2021

1. As of March 18, the State of Illinois is allowing 25% capacity in venues with 200 seats or more. This capacity requires social distancing between non-household parties. If metrics begin to trend in the right direction, venues will (hopefully soon) be able to conduct indoor events up to 60% of capacity. However, if social distance requirements remain unchanged, the maximum attendance will be around 2,750 regardless if capacity is 25% or 60%.

Several graduations are currently under contract and are deciding between hosting a drive-in graduation or smaller indoor ceremony. The schools strongly desire to have the graduations inside, which is feasible with strict adherence to guidelines, masks, signage, etc. Discussions will continue.

2. Researching potential COVID relief programs to see if any funding is available for ongoing operating expenses or capital projects. The "Shuttered Venues Operators Grant" Federal program offers possibilities, as municipally owned venues (like university owned venues) are eligible, but in the third tier priority for funds. We began the application process on April 8, when the portal opened, but the website "crashed" almost immediately. We are waiting for notification of the date and time of the restart.
3. Staff received the mechanical engineer's report to improve airflow and make the Arena bowl safer for reopening when restrictions are lifted. Professional journals continue to cite improved airflow as being very important to reopening businesses and sports/entertainment venues, even after the efforts to vaccinate the vast majority of the population are complete. The engineer's recommendation for adding three exhaust fans in the ceiling above the upper bowl will be presented at the April Finance Committee.
4. A proposal for updating the lighting controls (included in the 2021 CIP) will also be presented at the April Finance Committee.
5. Regarding NOW signage, the new signs have all been completed. The interior signage and other branding have also been completed.

6. Continue to work with Ben Gibbs on the response plan to the COVID-19, including staffing levels, measures for reopening, event postponements and rescheduling, and cash flow.
7. Working with the Village's Lobbyist and Assistant Corporation Counsel regarding the applicability of the new State Parking Excise Tax. HB 852 has been referred to the Rules Committee, but SB 217 appears to be heading to a full Senate vote and clarify that the tax should not apply to municipal owned parking facilities.
8. Working with Ben Gibbs on a new license agreement with School District U-46 for the 2021 graduation and with Cheerleading for 2021-2023 competitions.
9. The Beer Garden in the Suite Parking Lot is now closed, but the outdoor Beer Garden will resume on April 30. Coordinating with Arena staff and Development Services with regard to the new tents to be installed on the Village Green for weddings and other social events.
10. Conducted bi-weekly meetings with Public Works Facilities and NOW staff regarding building items, with a particular emphasis on safety measures that will be necessary when the Arena reopens.
11. Conducted weekly phone calls with Ben Gibbs to discuss bookings, holds, operational items, and event coordination.



Mark Koplin
Owner's Representative, NOW Arena

Attachment

MAK/kr

cc: E. Palm
D. O'Malley
Ben Gibbs (Spectra)

Now Arena
General Manager Update
 April 2021

Event Highlights	Notes
April 24: Car Event (East Parking Lot) April 30: Beer Garden Open May 7 to 9: BMW Parking Lot Event May 20 to 29: High School Graduations May 1to 31: Beer Garden every Fri/Sat	
Finance Department	
General	Arena finished March financials.
Monthly Financial Statement	Building Event Revenue YTD: (\$14,009)
	Building Sponsor/Other Revenue YTD: \$71,126
	Building Expenses YTD: \$566,682
	Building Income YTD: (\$509,566) vs. YTD Budget (\$489,340)
Operations Department	
General	Continuing to work on HVAC enhancement budget/RFP (additional exhaust fans on roof), reviewing proposals for lighting control systems. Prepping Village Green for April 30 opening.
Positions to Fill	Director of Operation - Will not be filled this fiscal
Third Party Providers	N/A
Village Support	HVAC improvements and lighting control RFP with Public Works
Events Department	
General	Working on beer garden events, wedding venue operational handbook and West Lot Summer Event budgets. Conducting walk-thrus with prospective wedding and social business clients for this coming summer.
Positions to Fill	Event Coordinator - Will not be filled this fiscal
Marketing Department	
General	Promoting Hideaway Brew Garden summer 2021 lineup and promoting new wedding venue.
Positions to Fill	N/A
Group Sales Department	
General	Group sales will be handled by a third party company.
Box Office Department	
General	Working with Ticketmaster on COVID complaint seating maps
Food & Beverage Department	
General	Operating at Hideaway Brew Garden
Premium Seating Department	
General	Working on NR partnership transition items including all physical signage, digital branding, highway signs and renovating portions of the concourse.
Positions to Fill	N/A
Sponsorship Department	
General	Concentrating on unsold categories including insurance and liquor
Monthly Financial Statement	Corporate Sales: \$42,248
	Suites Sales: \$19,875
General	
Capital Improvements/Repairs	Lighting control RFP and HVAC upgrade.