

CRESCENTA VALLEY WATER DISTRICT

2700 FOOTHILL BOULEVARD
LA CRESCENTA, CALIFORNIA

To be held on
March 31, 2021 at 2:30 PM

Agenda for the Meeting of the Technology Committee
of the Crescenta Valley Water District

Posted March 30, 2021 at 2:30 PM

TELECONFERENCING NOTICE

[This meeting will be held by teleconference only.]

Pursuant to the provisions of Executive Order N-29-20 issued by Governor Gavin Newsom on March 18, 2020, the public may not attend the meeting in person.

Any member of the public may participate using a touchtone phone. You may select any of the following phone numbers (there are more than one for increased reliability during this time of increased phone traffic)

(669) 900-6833

(346) 248-7799

(929) 205-6099

(253) 215-8782

(301) 715-8592

(312) 626-6799

Then, enter Access Code: 839 4506 8537

[Pursuant to the above Executive Order, the public may not attend the meeting in person]

Those members of the public who are able to and would like to additionally participate with a computer through videoconference may access the Zoom videoconferencing tool available at the following link – <https://us02web.zoom.us/j/83945068537>

Any person may make a request for a disability-related modification or accommodation needed for that person to be able to participate in the public meeting by contacting the District by phone or in writing at customerservice@cvwd.com. Requests must specify the nature of the disability and the type of accommodation requested. A telephone number or other contact information should be included so that District staff may discuss appropriate arrangements. Persons requesting a disability-related accommodation should make the request with adequate time before the meeting for the District to provide the requested accommodation.

Call to Order

Adoption of Agenda

Public Comment:

At this time, members of the public shall have an opportunity to address the Committee on items of interest that are within the subject matter jurisdiction of this Committee. This opportunity is non-transferable, and speakers are limited to three (3) minutes each.

Action Items

The public shall have an opportunity to comment on any action item as each item is considered by the Committee. This opportunity is non-transferrable, and speakers are limited to one two-minute (2) comment each.

1. Introduction of Highroad IT and Discussion of the District's IT Roadmap

Committee Member's Request for Future Agenda Items

Next Technology Committee Meeting

Adjournment

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Crescenta Valley Water District **Information Technology Roadmap**

March 2021



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INTRODUCTION

Highroad IT (HIT)

Providing best-in-class service since 2004

HIT's client-centric approach promises reliable support paired with innovative and effective solutions that meet client needs and expectations. With extensive experience and expertise in integration and support projects, their wealth of knowledge in network and system architecture provides increased business system uptime and management, allowing for optimal productivity, resiliency, and business continuity.



SAVINGS

Elimination of staffing and overhead costs dedicated to in-house IT employees, in exchange for a flat monthly fee (excluding special projects)



QUALITY

HIT offers best-in-class service. Their team of technicians provide quick response times, expert knowledge and solutions, 24/7 monitoring and 24/7 work request submissions



CONTROL

Under the guidance of HIT's expert staff, and with full visibility of your computer infrastructure, you will be equipped to make key decisions and plan with confidence



FOCUS

Computer infrastructure issues are resolved quickly, reducing downtime and delays



RESULTS

Improved customer service and increased productivity produce happy employees and satisfied customers



TEAM

HIT takes great pride in the strength of their team, with each player providing critical care for their clients through the proactive, prepared and professional approach on which HIT has built its success. Providing unrivaled availability and resolution times, each of your individual employees receives the same level of service. HIT is dedicated to the success of CVWD through their employees, considering them to be an extension of their own team.

EXECUTIVE SUMMARY

Since beginning of our partnership in March 2020, Highroad IT (HIT) has been dedicated to effectively addressing Crescenta Valley Water District's (CVWD) past, present, and future Information Technology (IT) needs to realize the District's Strategic Plan goals.

- ✓ Resolution of longstanding, but unaddressed IT issues
- ✓ Rapid response to the COVID-19 pandemic, preventing productivity loss
- ✓ Accelerated implementation of timely cybersecurity protocols
- ✓ Laying the groundwork for future success

As exhibited by the Total Savings Summary (page 21), in less than 12 months Highroad IT implemented key changes to CVWD's IT Network that will result in a projected operational savings of \$168K, which more than covers the projected HIT cost of \$144K for two years of Managed Services and does not include additional savings on personnel cost of \$284K. As part of the partnership, HIT is committed to ongoing evaluation of IT products and services, ensuring effective and efficient IT practices, while continuing to provide CVWD with cost efficiency and predictability, operational resiliency, increased continuity, enhanced customer service, and a heightened focus on compliance.

Cost Efficiency and Predictability

Through HIT's managed services, CVWD will experience cost efficiency and predictability through 3 distinctive advantages: The elimination of staffing and overhead cost in exchange for a flat-rate consultancy contract, Vendor visibility and ongoing viability analysis, and the management of hardware and software, both current and future.

Operational Resiliency

Since beginning the partnership, CVWD has gained increased Operational Resiliency through standardization, mobilization, and increased security.

Standardization with the implementation of Office365 allows HIT to maintain software versions necessary for driving increased productivity and seamless communication with employees and customers.

As learned during the COVID-19 pandemic, mobility and flexibility are critical to the success of CVWD. With deployment of the Virtual Private Network (VPN), CVWD employees can now work outside of the office with confidence in a secure environment. The cloud infrastructure has eliminated risk of "single point of failure", whilst increasing accessibility and availability.

CVWD now benefits from increased security through HIT's proven protocol, including the 24/7 monitoring system and regularly scheduled patching and updates, ensuring efficient system and network maintenance. Additionally, HIT's backup policy promises dedicated backups of CVWD's systems, allowing for quick issue detection and resolution.

Compliance

The protection of CVWD begins with the elimination of practices that disrupt operations and increase risk. Establishing proper IT policies and retention practices is essential to the production, growth, and success of CVWD through each employee. Policies should be in adherence of federal and state laws, mitigating risk of major failures through prevention and detection of violations that may result in fines and/or lawsuits.

COMPUTER INFRASTRUCTURE SUMMARY

Latest Client Health



21 Servers

61 Workstations

80%

0 Network Devices



82% Performance

99% CPU Performance

64% Memory Performance

71% Drive Performance

95% Drive Fragmentation



71% Stability

87% CPU Stability

94% Memory Stability

96% Drive Stability

70% OS Stability

74% Other Stability Checks (4)



88% Security

59% Antivirus Security

96% Patch Compliance

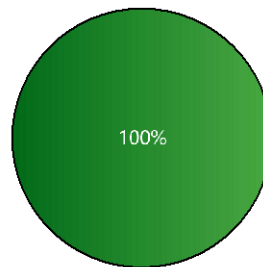
99% Patch Recommended Check

Asset Standards At-Risk

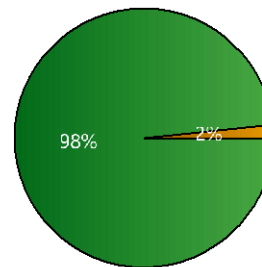
Standard Name	Failed
Workstation: Hard Drives	22 / 84
Server: Hard Drives	17 / 84
Workstation: CPU	14 / 84
Antivirus	11 / 84
Server: CPU	10 / 84
4 additional failed standards detected	

Asset Analysis

Servers



Workstations



- Microsoft (Supported): 81
- Microsoft (Extended): 1
- Microsoft (End of Life): 0
- Mac (Apple): 0
- Linux OS: 0

Server Drive Utilization: Top 5 At-Risk

Location\Computer	Volume Name	Size	Drive Space Utilized
Servers\CVAPPX(188)	- -	127 GB	88% 
SCADA\CVWWHOST01 (465)	OS	3.27 TB	88% 
Servers\CVBASE1 (602)	tempvm	1.82 TB	86% 
Servers\CVBASE1 (602)	cored	5.3 TB	76% 
Servers\NTVOICE1 (191)	- -	100 GB	72% 

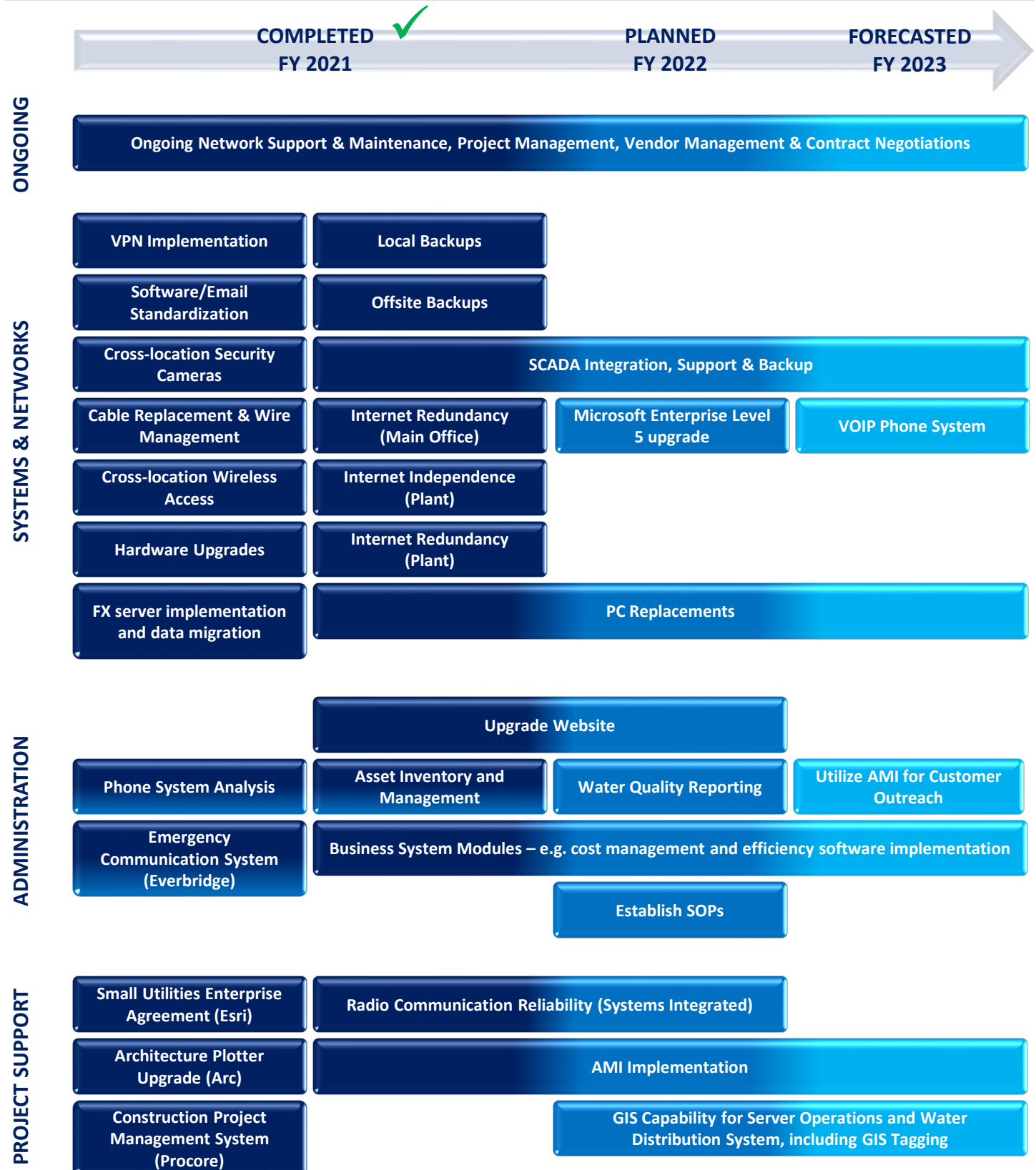
Workstation Drive Utilization: Top 5 At-Risk

Location\Computer	Volume Name	Size	Drive Space Utilized
Servers\CVDVS1 (192)	vsstore	1000 GB	98% 
Workstations\CV3ENGBROOK (143)	OS	475 GB	94% 
Workstations\CVOMM1 (164)	Recovery Image	18 GB	87% 
Workstations\CVWD-LT2005 (436)	OS	221 GB	84% 
Workstations\CV3DRAWLINGS (152)	OS	107 GB	66% 

Patch Compliance: Top 5 At-Risk

Location\Computer	Patch Compliance	I / NA / F	Patch Status
Workstations\COPSM2	50.0% 	5 / 5 / 0	Missing Patches Agent Offline
Remote Device\CVWD-LT2001	50.0% 	2 / 2 / 0	Missing Patches
Remote Device\CVWD-LTBRD3	57.1% 	4 / 3 / 0	Missing Patches Agent Offline
Remote Device\CVWD-LTBRD2	66.7% 	2 / 1 / 0	Pending Reboot Missing Patches Agent Offline
SCADA\CVXWS2	71.4% 	5 / 2 / 0	Missing Patches

FUTURE PATH



COST EFFICIENCY AND PREDICTABILITY

Information Technology as it relates to the District can be defined as the infrastructure that supports the District's ability to communicate internally and externally with customers.

Building and maintaining this communication infrastructure is critical to succeeding as an organization in the modern economy, and a robust and active IT presence supports every aspect of the Strategic Plan as approved by the Board in 2020. A few such goals and objectives include:



Ensure Infrastructure Reliability & Performance – develop and implement preventative/predictive maintenance schedules for all major assets



Increase Customer Awareness – deploy technology upgrades to leverage automated communication to increase efficiency and enhance customer outreach



Efficiency Through Technology – upgrade connectivity and reliability of District communication devices and network



Employer & Workforce Excellence – develop best-in-class culture, develop standard operating procedures across all departments

A successful robust and active IT presence requires the following:



Knowledge is current and relevant - A quickly-changing IT and cybersecurity landscape means that an IT provider needs to have the most current information and training as they relate to hardware options, software updates, and cybersecurity strategies.



Response to emergencies is immediate – Water and wastewater service delivery is 24/7, and timely responsiveness to staff and the infrastructure they depend on to serve customers safe, reliable water is key – e.g., the ability to monitor systems around the clock or respond to a radio communications failure from a reservoir in the middle of the night.



Implementation is efficient and quick – Rapid, flexible deployment of new systems or upgrades is fiscally sound because benefits are realized sooner rather than later and because there are less cost inefficiencies associated with “stop and go” project implementation.



Cost effective – Service delivery needs to reflect financially prudent decision-making, whether the selection of replacement assets or choice of service deliver model – e.g. in-house vs. consultancy.

The IT industry has changed rapidly in recent years and is expected to continue the trend. On one hand, there is increasing demand on technology adoption to deliver service. For example, the District's customers expect deployment of AMI technology which will provide them more data and timely information. On the other hand, there are increasing threats to said technology, and there are a number of recent examples nationwide of water agencies targeted for their information.

In March 2020, CVWD welcomed Highroad IT to serve the District's technology needs in recognition of the need for a team that would effectively manage continuously changing technology landscape and do so in a cost-efficient manner. The labor and benefits component of savings – net of fees for Managed Services is approximately \$ 212,000 (\$284,000 – \$72,000) per year

COST EFFICIENCY AND PREDICTABILITY (continued)

Vendor Contracts

Partnership with Highroad IT (HIT) leads to savings from ongoing renegotiation and/or the elimination of redundant vendor contracts

Comprehensive IT delivery requires a variety of vendors from phone and internet providers to hardware providers and specialized consultants.

Determining the right vendors requires appropriately scoping the District's needs. Highroad IT determined the cross-section between the District's current and future needs and current infrastructure the first several months of engagement with the District, fine-tuning the short and long-term roadmap over the remainder of the year.

After vendor needs are determined, the goal with vendor contracts is to maximize service delivery and minimize risk by securing the most reliable and proficient services and weigh those objectives against cost efficiency.

Over the past year, Highroad IT has focused its efforts with vendors and vendor contracts into the following primary categories:



Renegotiation – Certain contracts can be renegotiated based on a more current understanding of the market. For example, Highroad IT is currently finalizing a renegotiated agreement with one of CVWD's Internet Service Providers to provide twice the speed for significantly less cost.



In-house service – Highroad IT can achieve economies of scale based on serving a multitude of clients, and Highroad has developed a number of key services in-house. For example, Highroad IT provides 24/7 monitoring of the District's system as part of its baseline service delivery to the District, and the District has benefitted by reducing the number of network monitoring vendor contracts as a result.



Redundancies – Highroad IT has identified and eliminated redundant services for cost savings.



New services – There are also newly identified vendor needs, whether a phone system consultant to bridge the District's needs while implementing VOIP technology or software providers to keep pace with the District's technology initiatives.

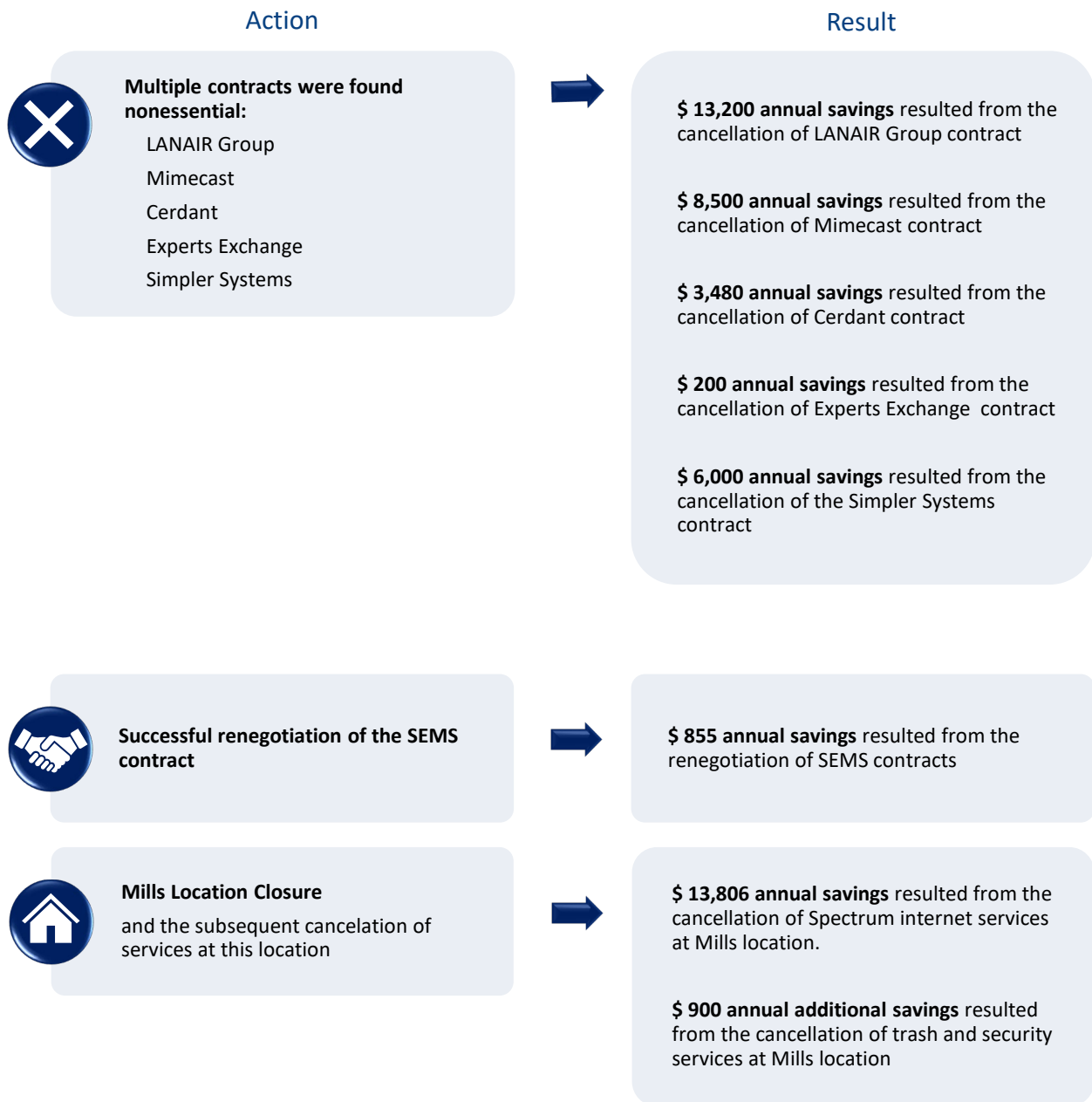
Highroad IT will continue to sharpen vendor relationships and contracts through the coming year. While the demand for new services will arise, the vendor contracts is expected to yield ongoing O&M cost savings for the District, particularly in FY 2022 and subsequent years.

COST EFFICIENCY AND PREDICTABILITY (continued)

Vendor Contracts

Partnership with Highroad IT (HIT) leads to savings from ongoing renegotiation and/or the elimination of redundant vendor contracts

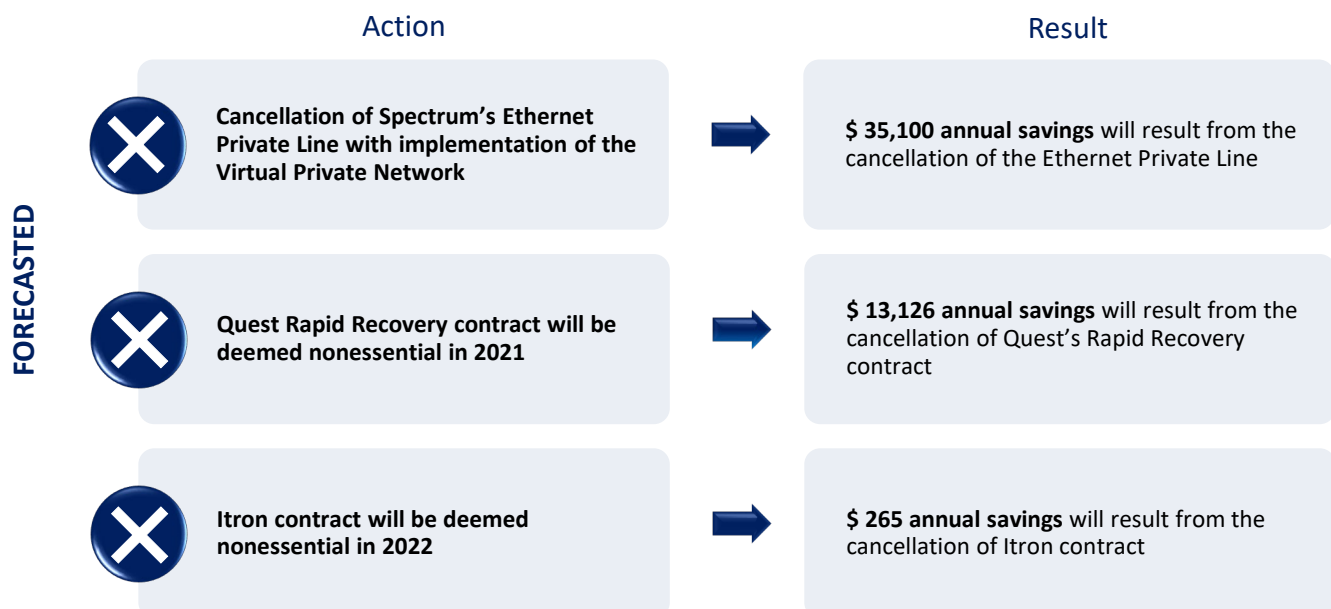
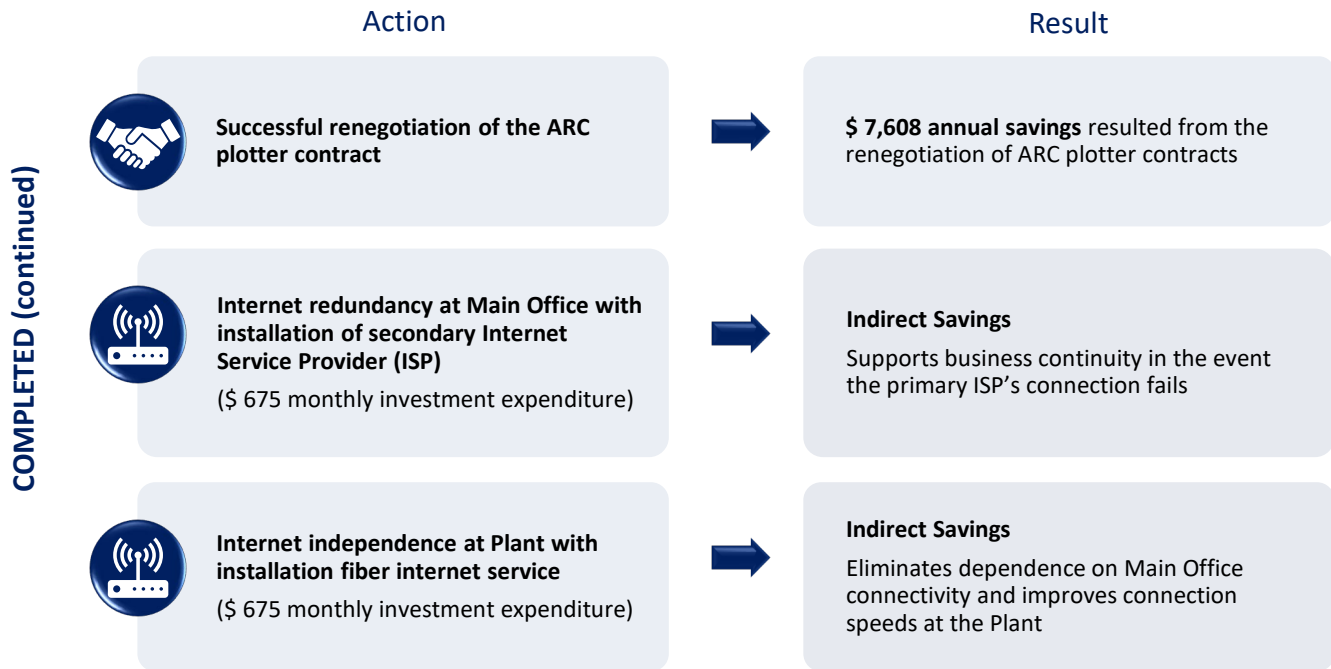
COMPLETED



COST EFFICIENCY AND PREDICTABILITY (continued)

Vendor Contracts

Partnership with Highroad IT (HIT) leads to savings from ongoing renegotiation and/or the elimination of redundant vendor contracts

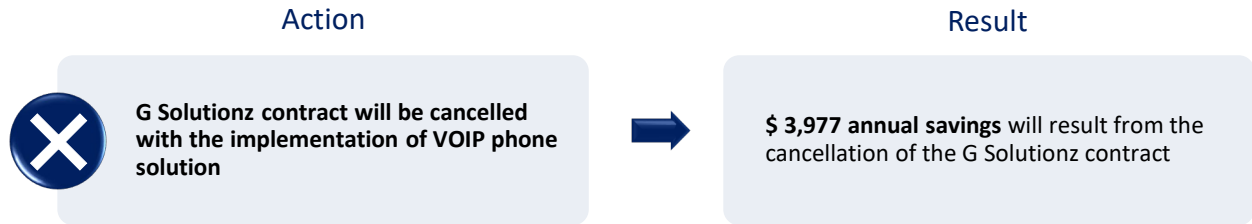


COST EFFICIENCY AND PREDICTABILITY (continued)

Vendor Contracts

Partnership with Highroad IT (HIT) leads to savings from ongoing renegotiation and/or the elimination of redundant vendor contracts

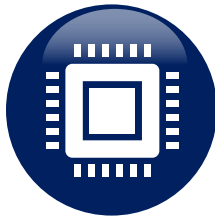
FORECASTED (continued)



COST EFFICIENCY AND PREDICTABILITY (continued)

Hardware

Partnership with HIT begins a journey toward leveraging cloud computing



While “Information Technology” is increasingly associated with managed services, all of those services depend on a backbone infrastructure composed of a variety of hardware.

Hardware includes computers, monitors, and phone systems. It also includes the servers, network switches, cabling and fiber that allow communication between the District and customers, between departments, and between assets such as SCADA with reservoirs or water meters with a communications base station.

Operational resiliency is paramount, and Highroad IT has focused over the past year on ensuring a reliable infrastructure. The District’s infrastructure is now stable, and the next effort will be to develop an Asset Management Plan that will allow an organized approach to replacement and tracking of assets.

Tracking assets increases accountability and ensures that assets are compatible and that once-stranded assets are being utilized, which increases system reliability and promotes cost savings over the long run. Proactively maintaining a reliable system also promotes cost savings.

COST EFFICIENCY AND PREDICTABILITY (continued)

Hardware

Partnership with HIT begins a journey toward leveraging cloud computing

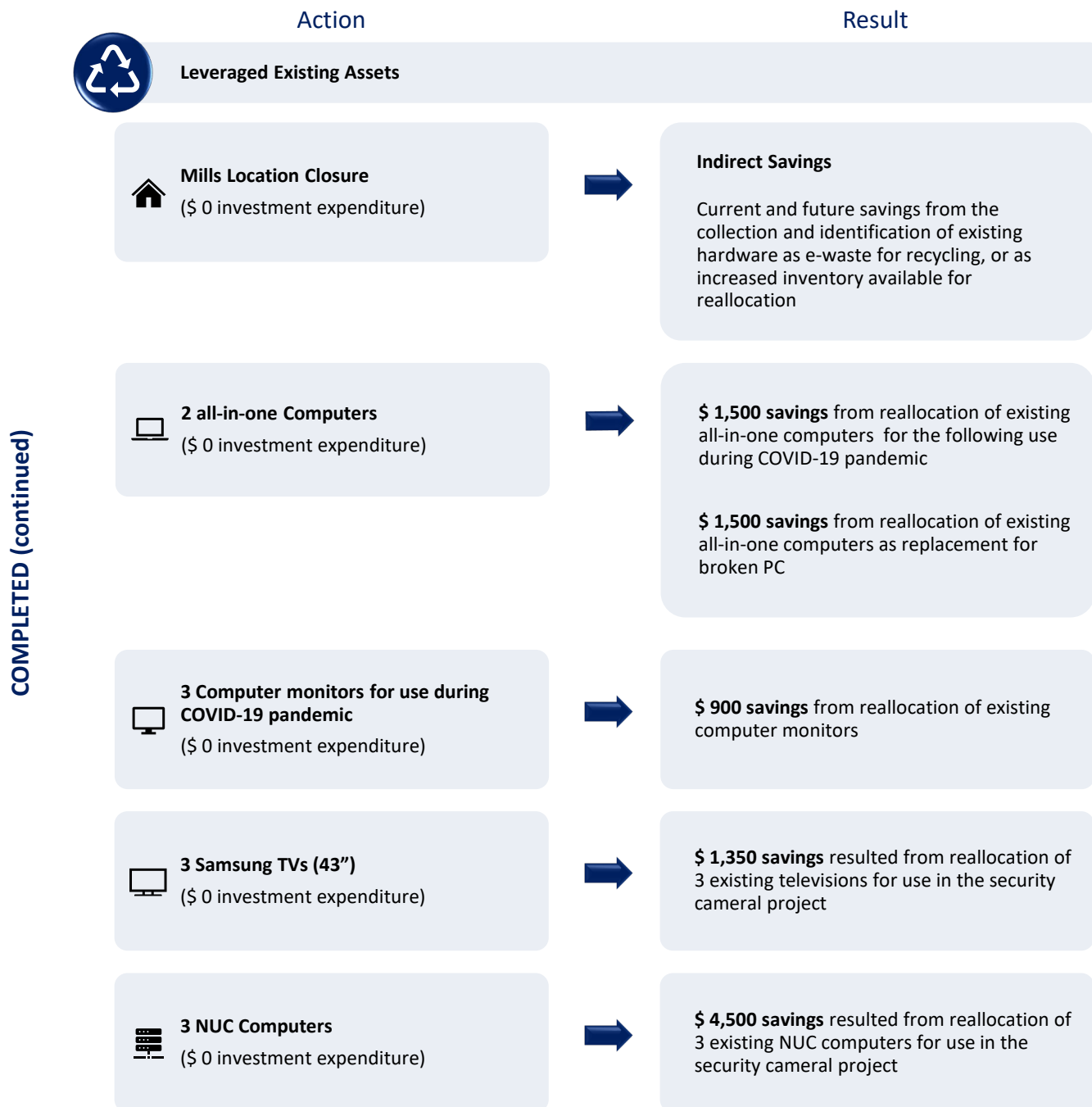
COMPLETED



COST EFFICIENCY AND PREDICTABILITY (continued)

Hardware (continued)

Partnership with HIT begins a journey toward leveraging cloud computing



COST EFFICIENCY AND PREDICTABILITY (continued)

Hardware (continued)

Partnership with HIT begins a journey toward leveraging cloud computing

COMPLETED (continued)

Action	Result
 SCADA Workstation 2 (\$ 0 investment expenditure)	\$ 1,500 savings resulted from reallocation of existing NUC computer for use in SCADA system
 UPS Battery Backup (\$ 0 investment expenditure)	\$ 500 savings resulted from reallocation of existing computer monitors
 POE Switches (\$ 0 investment expenditure)	\$ 1,000 savings resulted from reallocation of existing POE switches found at Mills location and engineering storage Room
 FX system currently inactive, deployed in existing environment to address server issues (\$ 0 investment expenditure)	\$ 50,000 savings resulted from eliminated service costs



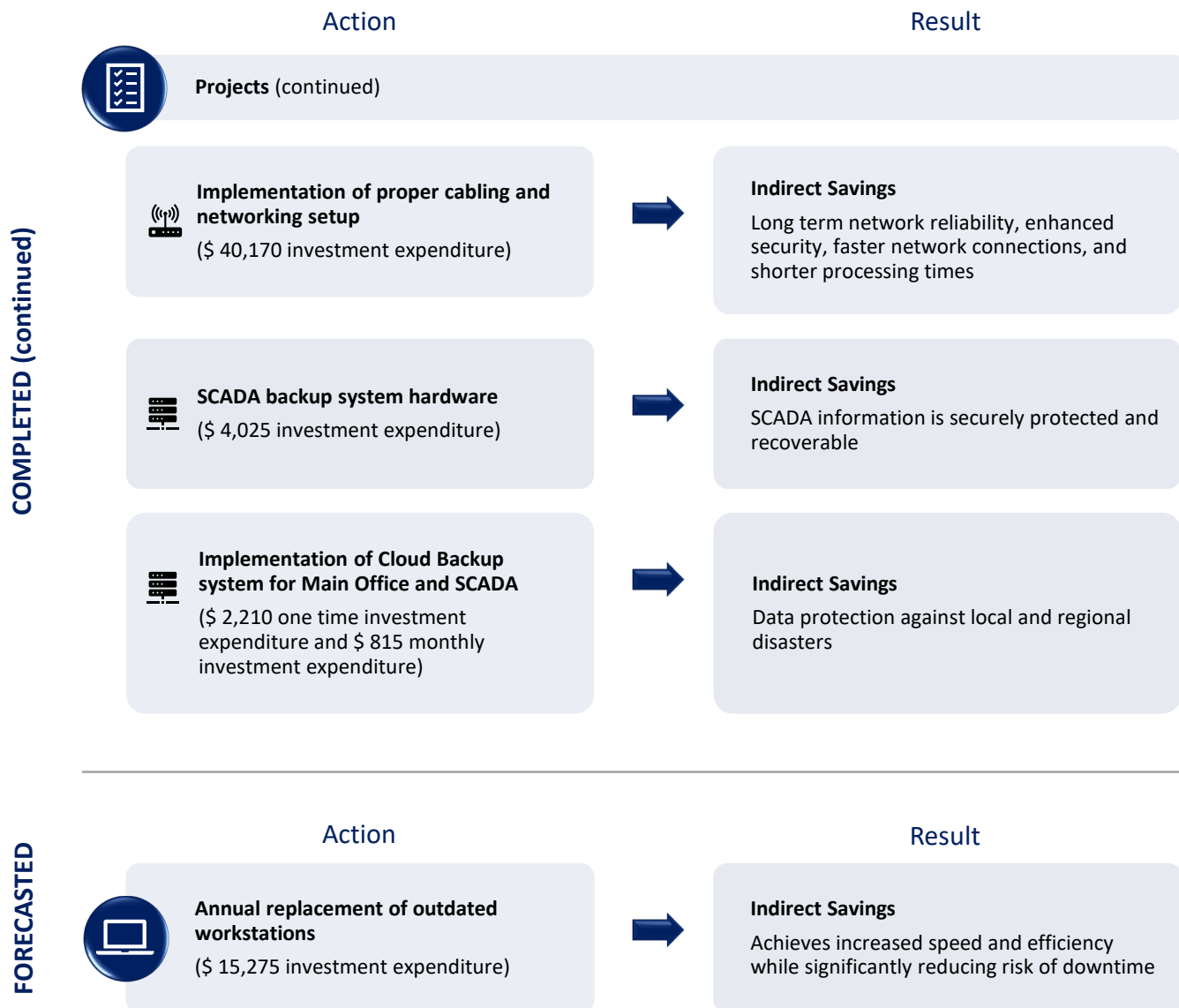
Projects - Laying a solid foundation for future savings towards cloud computing initiative

 Implementation of Business Class WIFI (\$ 9,105 investment expenditure)	Indirect Savings Reliable network connections
 Security cameras (\$ 11,962 investment expenditure)	Indirect Savings Increased protection of the District's employees and assets

COST EFFICIENCY AND PREDICTABILITY (continued)

Hardware (continued)

Partnership with HIT begins a journey toward leveraging cloud computing



COST EFFICIENCY AND PREDICTABILITY (continued)

Software

Partnership with HIT begins a journey toward leveraging cloud computing

Hardware represents backbone infrastructure, and software converts hardware into productivity and then protects that work product from outside threats.

In optimizing the District's software needs, Highroad IT considers the following elements:



Reliability – In order for the District to fulfill its mission of delivering safe, reliable water, it needs to be able to rely on its software support. Highroad IT has worked over the last year to ensure customer/financial information systems, email systems are compatible with each other, standardized, and scheduled for timely updates. Highroad IT also continues to implement a best-in-class practice of developing and maintaining Standard Operating Procedures, which are critical for operational resiliency and also afford the District a measure of independence from its current IT provider, which is also a best practice.

A reliable software network supports productivity but also adds the intangible benefit of employee morale. There are few things more frustrating than not being able to communicate with customers or work product being lost due to software issues, and this had been a historical issue at the District. One of the first issues Highroad IT resolved was an outdated email system, migrating email service from Microsoft Exchange to Microsoft 365 which eliminated a host of lingering issues.



Security – With the increasing sophistication of external threats, the District needs constant security and the most updated measures. Upon engaging with the District, Highroad IT immediately identified where the system was compromised and remediated. For example, the District was transitioned from a “remote desktop” form of remote access to VPN and software was updated to Windows 10, and these are the vulnerabilities that were exploited during the recent cyberattack on a Florida water agency. Threats can be environmental as well, and Highroad has recently completed a migration of the District's data backup from an on-site location to the cloud.

Avoidance of even a single cybersecurity event or loss represents untold financial and non-financial savings.



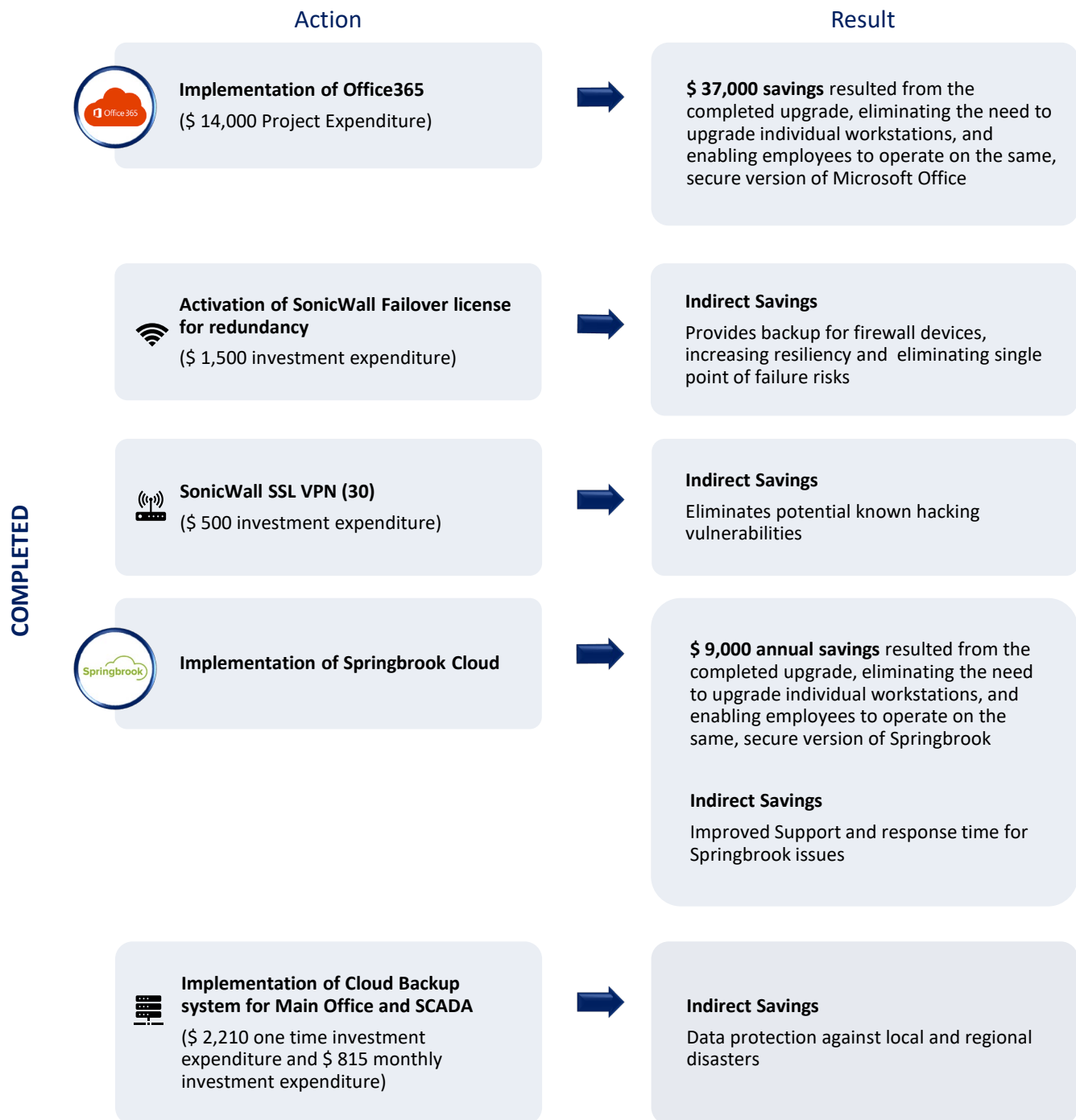
Horsepower – Software can provide horsepower, leveraging existing efforts to provide more. For example, upgrading Springbrook, the District's customer/financial information system to the cloud opened up a host of other capabilities such as customer water usage analytics that can be shared with the customer. Deploying software for hydraulic modeling can illustrate the effects of changing conditions in the distribution system, whether pumps, valves, or pressure. Installing an interactive database for water quality ensure timely and accurate reporting to the State and promotes synergies across Engineering, Operations, and Regulatory Affairs.

Having ensured a reliable and secure network over the last year, Highroad IT will continue working with staff to implement software needs as they relate to goals and objectives in the Strategic Plan.

COST EFFICIENCY AND PREDICTABILITY (continued)

Software

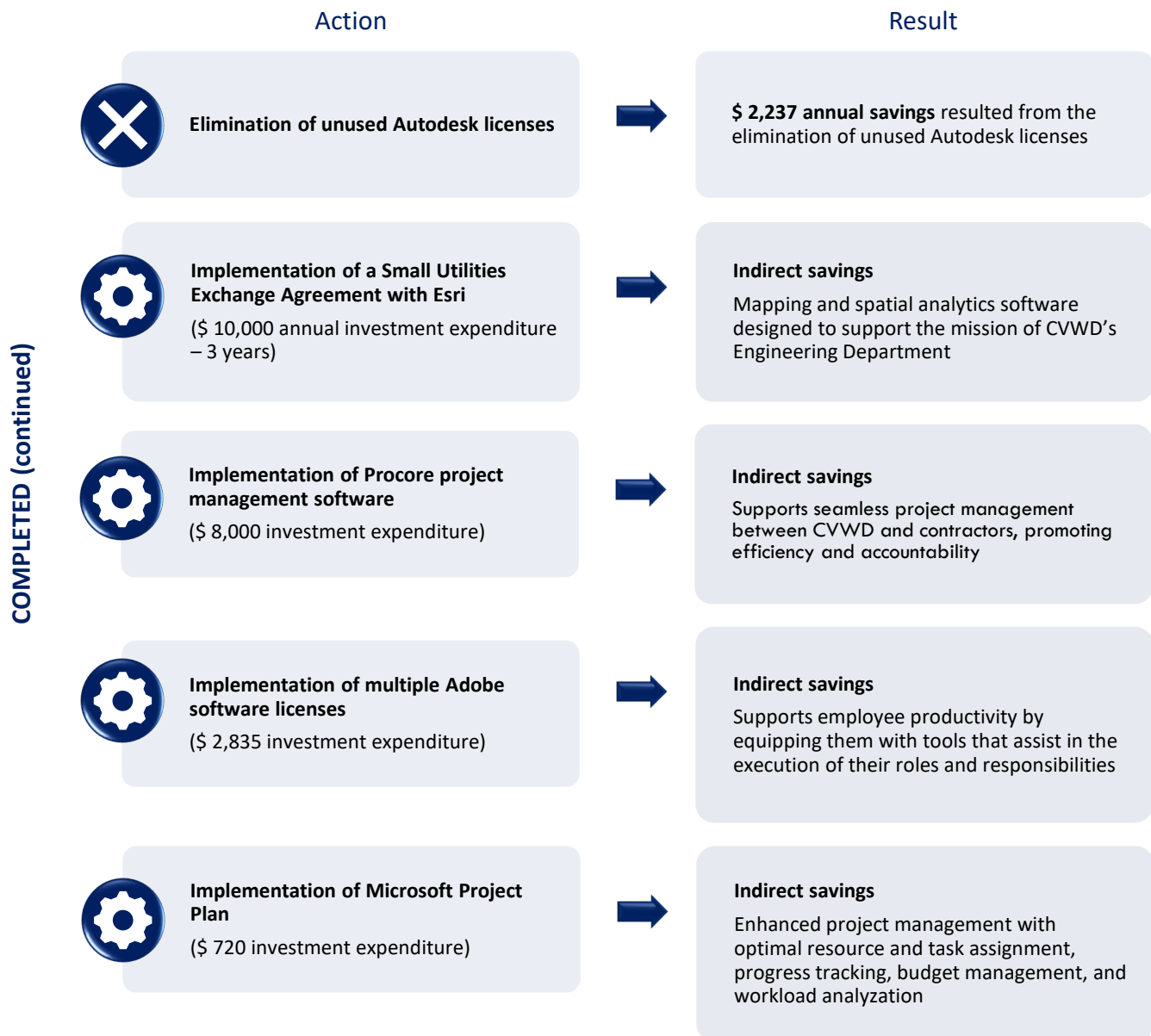
Partnership with HIT begins a journey toward leveraging cloud computing



COST EFFICIENCY AND PREDICTABILITY (continued)

Software

Partnership with HIT begins a journey toward leveraging cloud computing

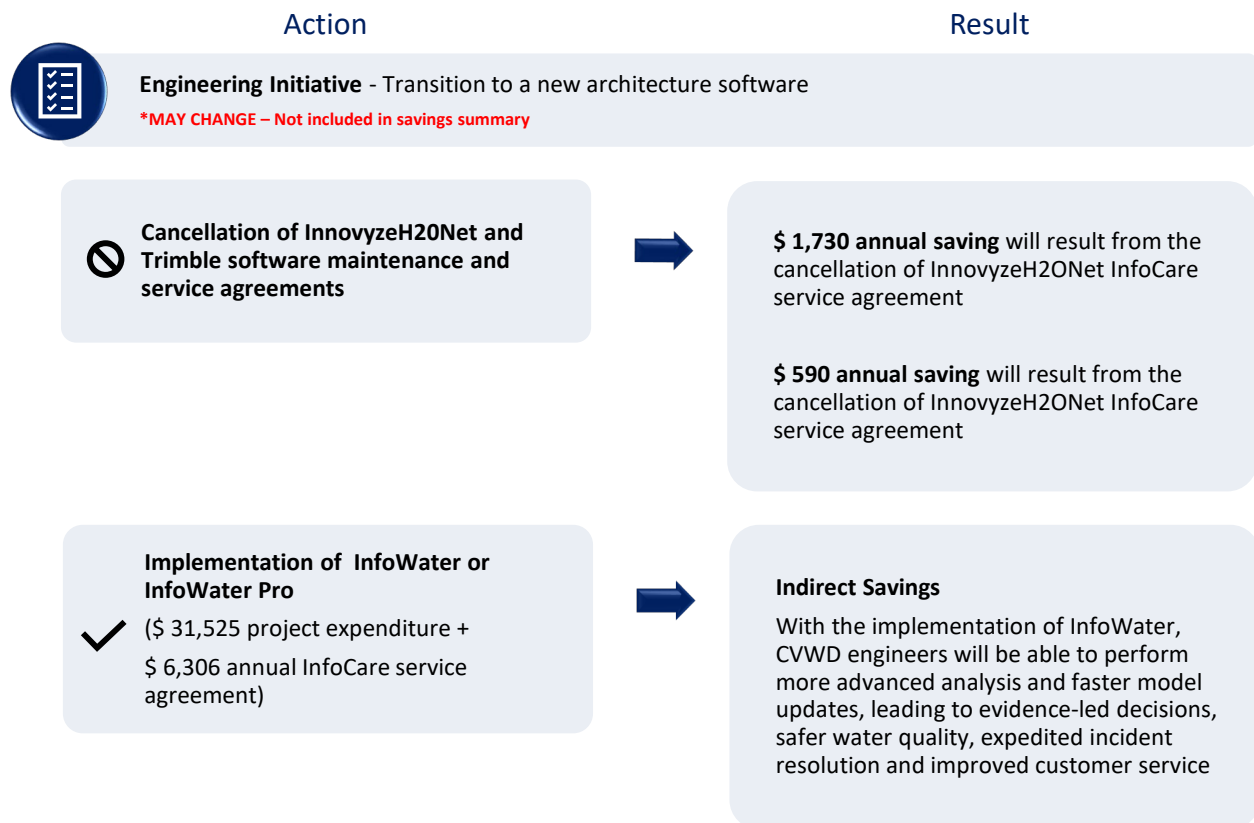


COST EFFICIENCY AND PREDICTABILITY (continued)

Software

Partnership with HIT begins a journey toward leveraging cloud computing

FORECASTED



COST EFFICIENCY AND PREDICTABILITY (continued)

Summary of Projected Savings Over 3 Years

Vendor Savings Summary

	Expenditure	Savings	Total Savings
FY 2021	(\$ 24,588)	\$ 54,549	\$ 29,961
FY 2022	(\$ 24,588)	\$ 103,040	\$ 78,452
FY 2023	(\$ 24,588)	\$ 107,017	\$ 82,429
Total			\$ 190,842

Hardware Savings Summary

	Expenditure	Savings	Total Savings
FY 2021	(\$ 89,187)	\$ 262,750	\$ 173,563
FY 2022	(\$ 15,400)	\$ 0	(\$ 15,400)
FY 2023	(\$ 8,800)	\$ 0	(\$ 8,800)
Total			\$ 149,363

Software Savings Summary

	Expenditure	Savings	Total Savings
FY 2021	(\$ 35,545)	\$ 48,237	\$ 12,692
FY 2022	(\$ 33,335)	\$ 2,237	(\$ 31,098)
FY 2023	(\$ 33,335)	\$ 2,237	(\$ 31,098)
Total			(\$ 49,504)

Total Savings Summary

	Expenditure	Savings	Total Savings
FY 2021	(\$ 149,320)	\$ 317,036	\$ 167,716
FY 2022	(\$ 63,543)	\$ 105,277	\$ 41,734
FY 2023	(\$ 56,943)	\$ 109,254	\$ 52,311
Total			\$ 261,761

OPERATIONAL RESILIENCY



ENHANCE CULTURE THROUGH CUSTOMER SERVICE & EXTENSION OF ORGANIZATIONAL VALUES



Highroad IT's company motto is ***"Not Just Technicians Taking Care of Computers, People Taking Care of People."***

Highroad IT brings its reputation in the water industry of Best-In-Class IT Experience to CVWD. This is important because The District's mission is guided by the Strategic Plan, and the goals and objectives in the Strategic Plan are fueled by the District's set of Organizational Values. Integrating these values into annual employee performance evaluations promotes accountability for a healthy, productive workforce culture, and these changes are still relatively recent.

The District considers Highroad IT and its staff an extension of CVWD and its staff, and Highroad IT's motto, reputation, and people are an important component of the company's service delivery and value proposition as the District continues to enhance its workforce culture, beginning with customer service. Solid, proactive customer service provides the following intangible benefits beyond productivity:

- ✓ Supports the Board's and management vision of excellent customer service;
- ✓ Empowers employees with resources and knowledge;
- ✓ Improves morale;
- ✓ Enhances positive culture by listening to employees and valuing their input on how to improve communication and collaboration across departments;
- ✓ Empowers customer with knowledge and a positive user experience;
- ✓ Identifies and removes IT pain points to create a hassle-free working condition.

As with the employee evaluation process, management will implement a feedback loop for Highroad IT, an extension of staff and the organization's values. This will be in the form of an ongoing employee satisfaction survey.

ENHANCE CULTURE THROUGH CUSTOMER SERVICE & EXTENSION OF ORGANIZATIONAL VALUES (continued)

CVWD Employees

- ✓ **Focused, individual attention** – HIT tends to the needs of each individual employee with the same urgency and quality regardless of role, providing critical training where necessary
- ✓ **Expedited ticket completion** – Because time impacts productivity, HIT strives to address and resolve all service ticket request as quickly as possible without sacrificing quality
- ✓ **Consistent Follow Up** – IT will follow up with each employee to ensure complete resolution and satisfaction
- ✓ **24/7 website portal, email and telephone to report issues** – CVWD employees can submit service ticket requests for issues in real time, regardless of business hours
- ✓ **First class issue resolution and skilled implementation** – HIT'S team of highly skilled technicians are trained and experienced in identifying issues and implementing solutions with close attention to detail and unwavering professionalism
- ✓ **Employee Training** – HIT's is committed to the development and education of their client's employees. Through "Lunch and Learn" sessions which promote teamwork and collaboration, employees will be empowered with improved skillsets and tips on how to "work smarter, not harder"

Projects

- ✓ **Focus on project objectives and completion** – With extensive experience in project delivery, HIT applies strict delivery methodologies to ensure quality and timely implementation
- ✓ **Expert evaluation and strategy planning** – When evaluating IT issues, HIT also considers and plans for the future. Not only are current IT issues resolved, but the groundwork has been laid for future IT compatibility, saving both time and money

COMPLIANCE

Policies

Establish clear company policies for optimal compliance and risk mitigation

- ✓ Passwords
- ✓ Internet Acceptable Use
- ✓ Bring your own device
- ✓ PC Replacement
- ✓ Employee Onboarding
- ✓ Employee Separation
- ✓ Ensure alignment with District's legal council's advice
- ✓ Adherence to all state and federal guidelines

Retention

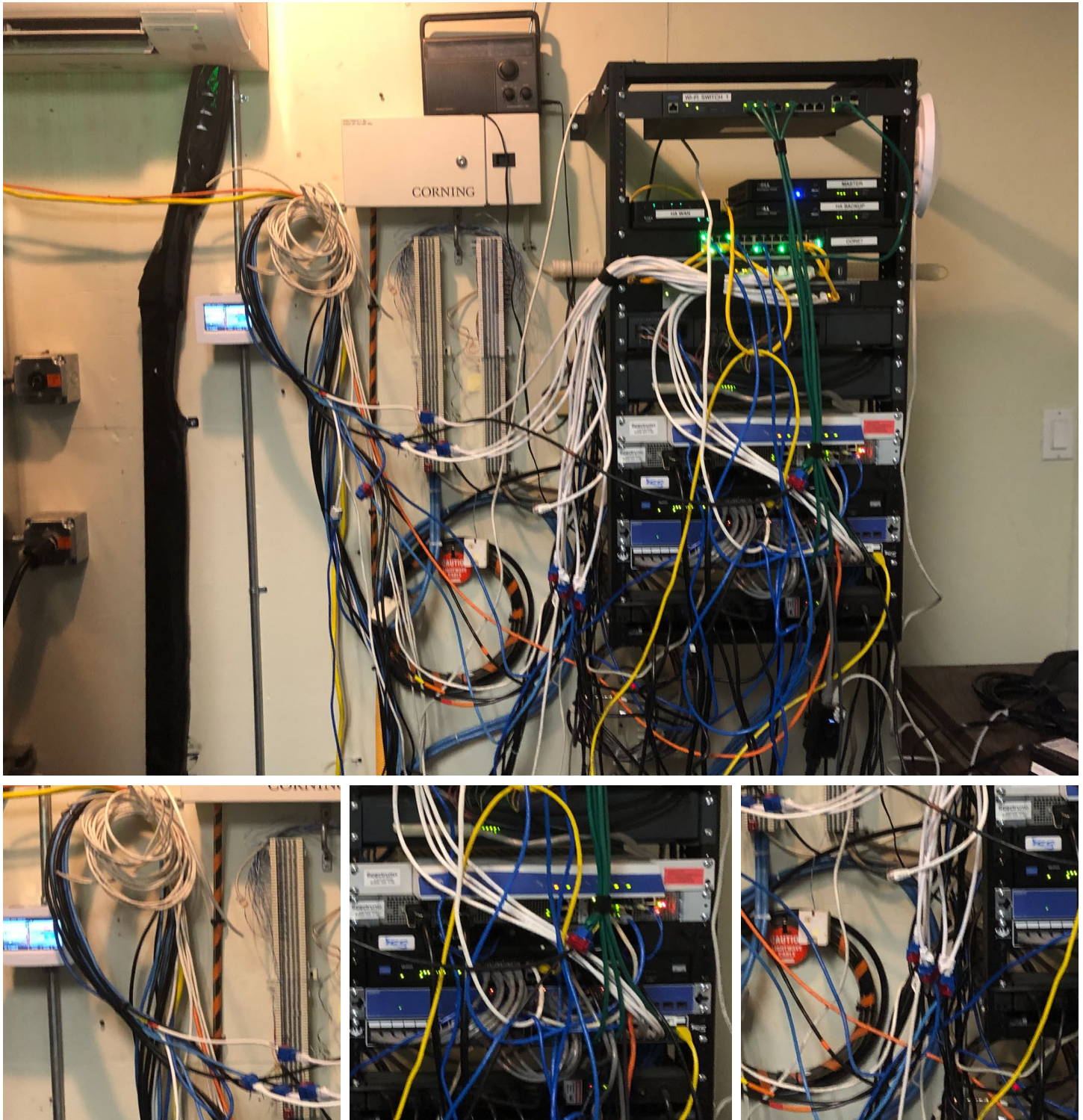
Establish guidelines for the successful management of company information

- ✓ Email Retention
- ✓ Personal Web Browsing
- ✓ Compliance with federal, state and local retention requirements (Federal: EPA and DHA / State: SB-272)

A CLOSER LOOK

2700 Foothill Blvd, La Crescenta, CA 91214

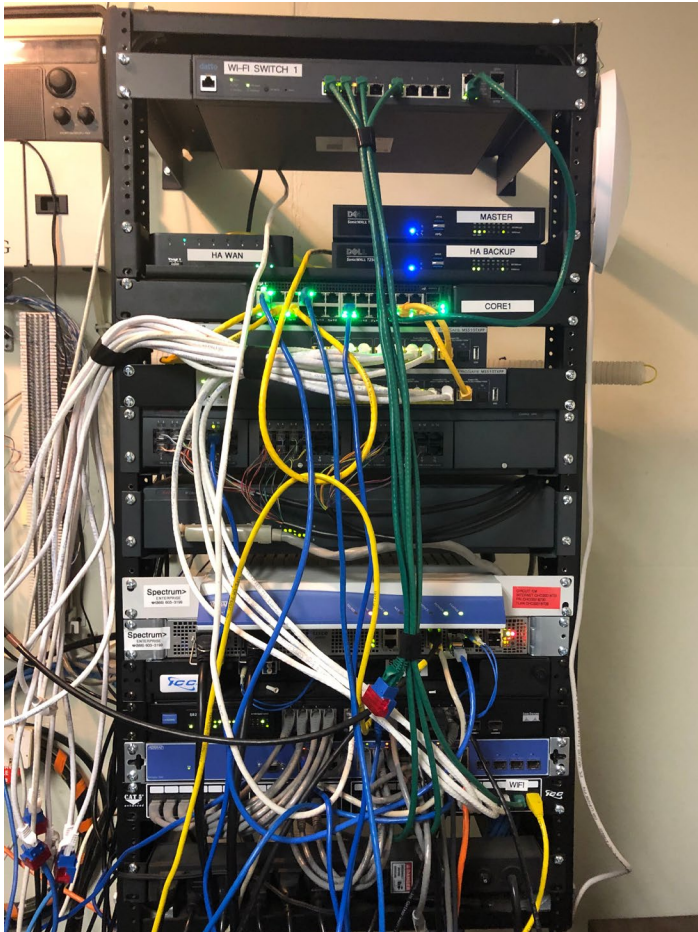
STARTING STATE – Main Office



A CLOSER LOOK

2700 Foothill Blvd, La Crescenta, CA 91214

BEFORE – Main Office



AFTER – Main Office



ISSUES

- ✗ Poor cable quality; exposed and fraying wires which increases risk service issues, such as poor connection, system interference and drop-offs
- ✗ Poor cable maintenance - Cables at risk of unintentional disconnection, increasing potential points of failure
- ✗ Networking equipment and servers were poorly organized with random placement, increasing difficulty in identification during IT maintenance and management

RESOLUTIONS

- ✓ All damaged hardware and cabling replaced
- ✓ Cable management installed for tangle free wire connection and proper upkeep
- ✓ Networking equipment and servers reorganized with color coordination by system type, eliminating unnecessary cross-cabling
- ✓ Networking equipment and servers labeled for quick and accurate identification

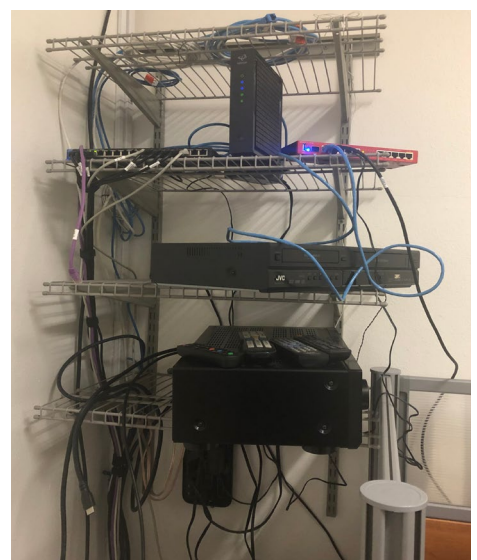
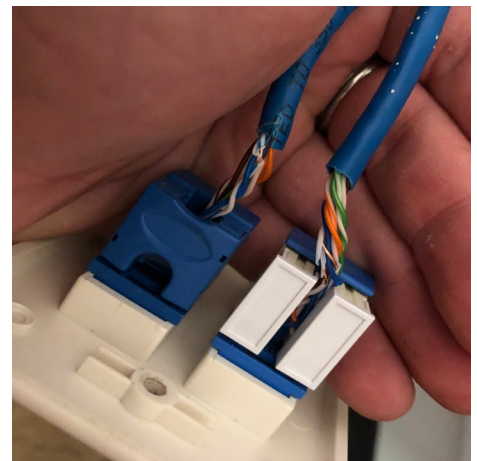
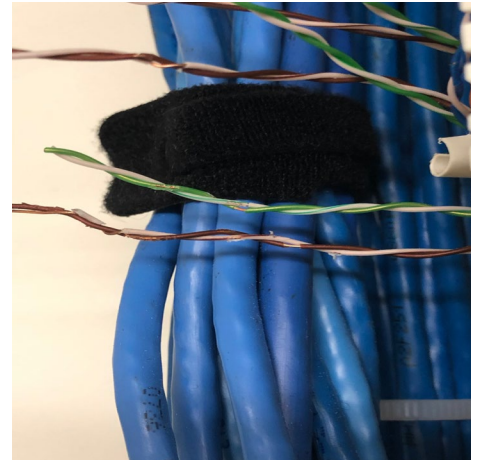
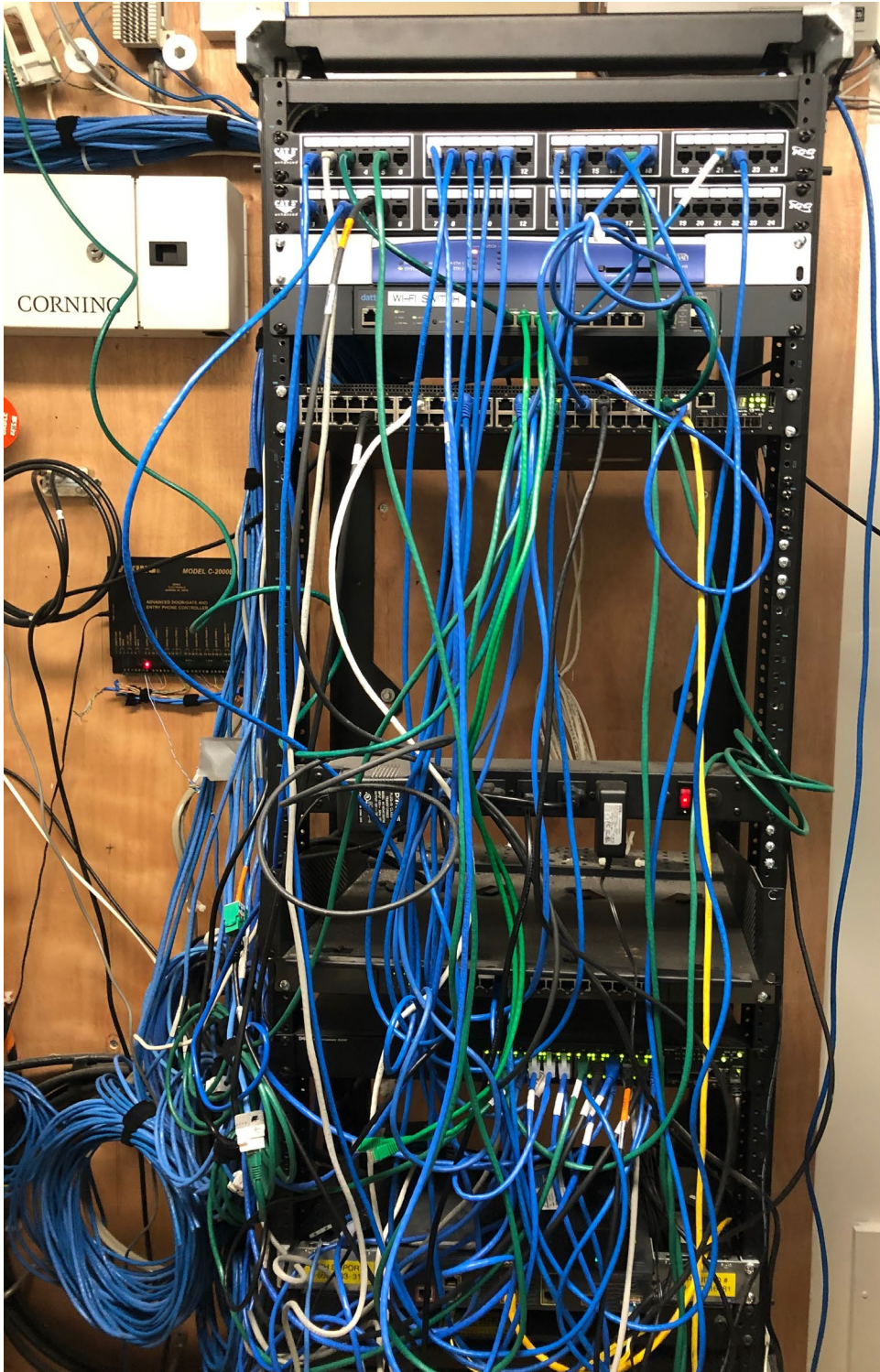
BENEFITS

- ✓ Improved networking
- ✓ Reduction of fail points risk
- ✓ Operational resiliency – Through direction from HIT, CVWD can troubleshoot hardware issues without requiring a technician on-site

A CLOSER LOOK

3730 Glenwood Ave, Glendale, CA 91214

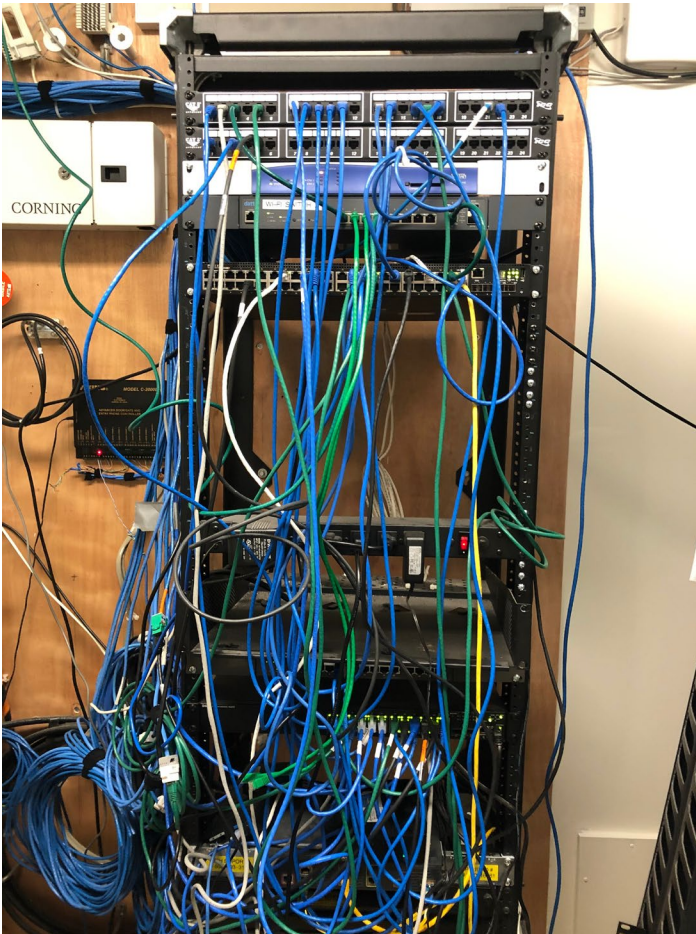
STARTING STATE - Plant



A CLOSER LOOK

3730 Glenwood Ave, Glendale, CA 91214

BEFORE - Plant



AFTER - Plant



***Note:** The same equipment and maintenance issues were found at the CVWD Plant. HIT implemented the same resolutions resulting in the same benefits as at the main office

APPENDIX

APPENDIX A – CUSTOMER SERVICE

Reliable Service (Internal & External)

24/7 Access via cvwd.com

✓ **Billing Statements**

With limitless accessibility to billing information, customers can keep up to date with account balances, removing the dependency on physical statements

✓ **Advanced Metering Infrastructure (AMI) Project**

With the implementation of AMI, CVWD will benefit from immediate data collection without need for on-site meter reading, resulting in faster service and enhance water conservation

✓ **Water Usage Reports**

Through AMI, Water Usage Reports will offer customers on-demand access to real-time water usage data, empowering them to make educated decisions regarding their personal consumption and adjust to fit their priorities. e.g. financial savings and/or conservation benefits. Additionally customers will be able to set up alerts that will notify them as they approach their preferred consumption limit

✓ **Web Bill Calculator**

Using data and rates from Water Usage Reports, customers will have a working tool to forecast upcoming water bill costs, allowing them to prepare and budget as necessary

Improved Communications

✓ **Notifications**

CVWD can keep customers informed of current or upcoming issues that will impact the community, such as repairs to water mains which may impede water services

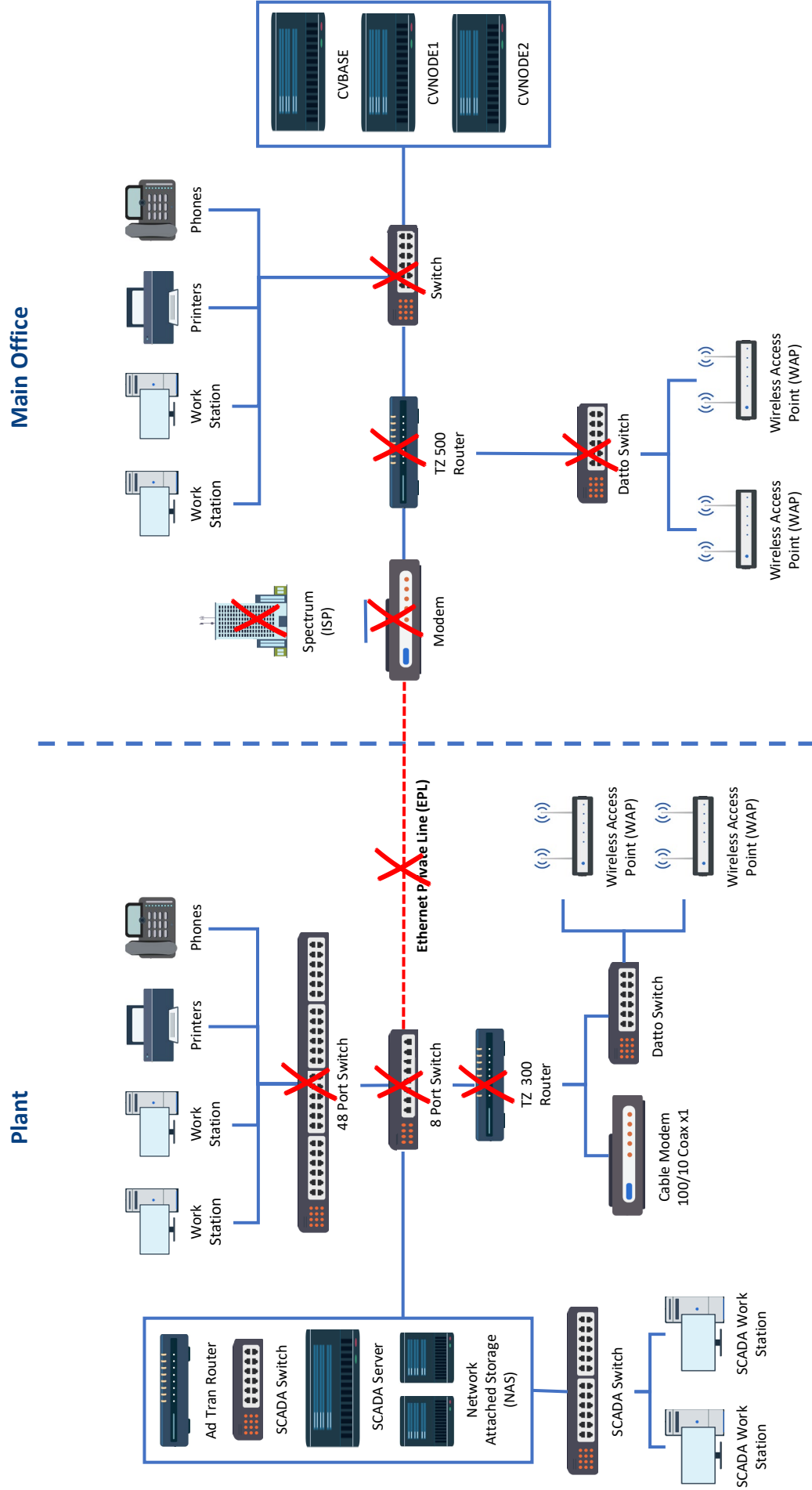
✓ **Educational Information**

Through cvwd.com, customers from an abundance of educational information and tools, covering a range of categories from conservation, to community outreach, to understanding Chloramine

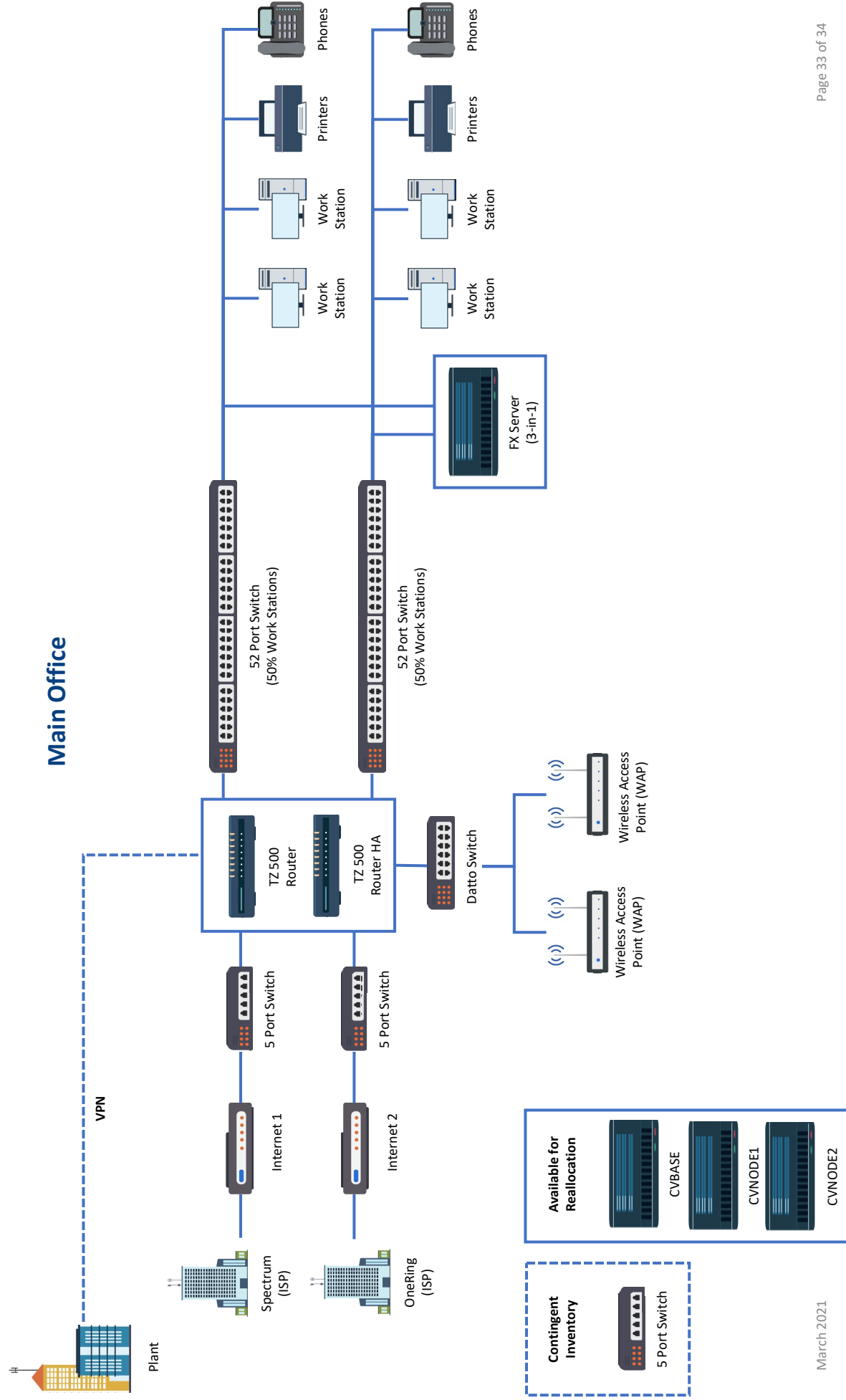
✓ **FAQs**

For added ease, cvwd.com offers a list of 28 frequently asked questions that will help customers with billing and payment, water quality and maintenance requests

APPENDIX B - NETWORK ARCHITECTURE (Starting State)



APPENDIX C - NETWORK ARCHITECTURE (Current State)



Plant

