

Volume 6

Capital Projects Plan

**INTEGRATED
COMPREHENSIVE PLAN**



Acknowledgements

Central Whidbey Island Fire & Rescue's (CWIFR) Board of Fire Commissioners have consistently supported the District's Capital Projects Plan and integration of this plan with the District's budget process and commitment to continuous improvement.

- Commissioner Cheryl Engle, Chair
- Commissioner Steve Hutchinson
- Commissioner Paul Messner

The following CWIFR members participated in development of the District's 2017-2027 Capital Projects Plan.

- Fire Chief Ed Hartin, MS, EFO, FiFireE, CFO
- Deputy Chief Charlie Smith, CEMSO
- Finance Officer Kim Harpe
- Lieutenant, Derik Vrable, Facilities Division Manager
- Lieutenant James Meek, Operations Division Manager
- Firefighter/Mechanic Mike Matros, Fleet Division Manager

The Capital Projects Plan Working Group would also like to acknowledge the support and commitment of the District's full-time, part-time, and volunteer members in translating this plan into operational day-to-day reality.

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Executive Summary

Central Whidbey Island Fire & Rescue's Capital Projects Plan is a key component of the District's Integrated Comprehensive Plan and is integrated closely with other elements of this plan to support the District's mission. This plan identifies capital projects scheduled over the next ten years. As such this document is updated on an annual basis, to extend the timeline one additional year and eliminating completed projects.

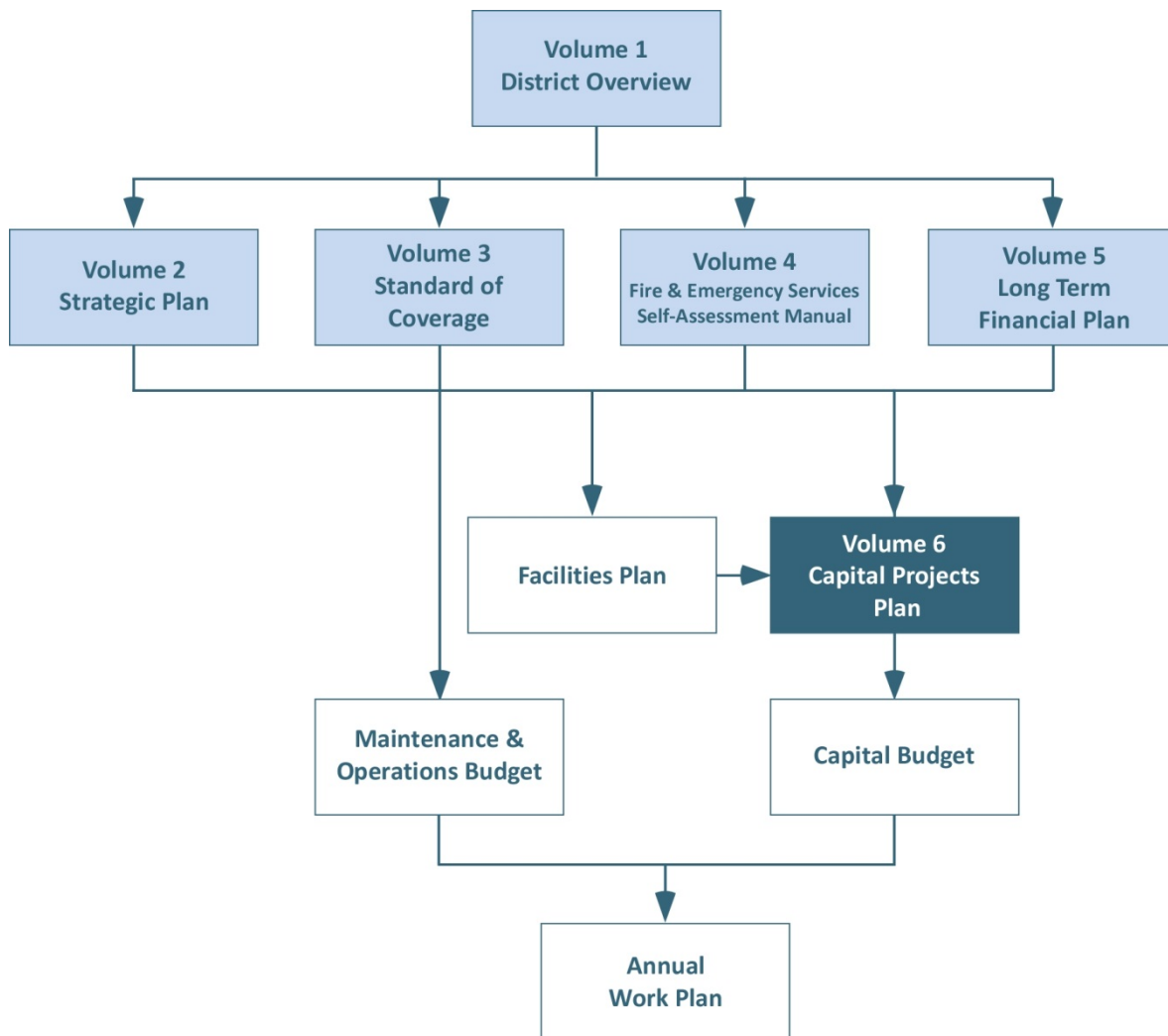
The Board of Fire Commissioners has defined capital assets as physical assets that have a cost of >\$5,000 and a useful life of >3 Years (e.g., fire stations, fire apparatus, self-contained breathing apparatus). At the discretion of the Fire Chief or Board of Fire Commissioners, a project comprised of multiple components with a total cost of >\$5,000 may be designated as a capital project (e.g., fire hose replacement). In addition, this plan includes maintenance projects that meet this capitalization threshold (e.g., roof covering replacement).

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Introduction

Central Whidbey Island Fire & Rescue (CWIFR) maintains several strategic level plans to guide its ongoing operations with a forward-looking orientation. Use of an integrated comprehensive planning reduces duplication of effort and maximizes the effectiveness of the District's planning process. Figure 1 illustrates the components of the Integrated Comprehensive Plan, their relationships to one another and connection to the District's annual budget process and work plan.

Figure 1. CWIFR Integrated Comprehensive Plan Components



Volume 1-District Overview: Each element of the District’s comprehensive planning process is rooted in a sound understanding of the nature and characteristics of the community, and the District’s service delivery system. This volume of the Comprehensive Plan provides an overview of the community served including demographics, geospatial profile, economic profile, and critical infrastructure. In addition, it examines the District’s legal basis for existence, history, services provided, facilities, resources, staffing, organization, and deployment model. The District Overview is reviewed and updated on a five-year cycle.

Volume 2-Strategic Plan: CWIFR’s Strategic Plan sets our organizational direction by establishing goals, but identifies specific initiatives necessary to accomplish these goals and a means for measuring progress. This plan is a living document, intended to guide and support ongoing operations and is solidly integrated with the District’s budgetary and operational business planning processes. The District Overview is reviewed and updated on a five-year cycle.

Volume 3-Community Risk Assessment, Standard of Coverage, & Community Risk Reduction Plan: The District’s Community Risk Assessment (CRA), Standard of Coverage (SOC) and Community Risk Reduction (CRR) Plan provides a rational and systematic method of examining risk and strategies used to reduce and respond to those risks. This document provides an assessment of community fire and non-fire risks, establishes baseline and benchmark response performance standards, provides a basis for measuring service delivery performance, and identifies strategies and performance measures for proactive risk reduction. The District Overview is reviewed and updated on a three-year cycle.

Volume 4-Fire and Emergency Services Self-Assessment Manual: The Fire and Emergency Services Self-Assessment Manual (FESSAM) (CPSE, 2015) provides a structured approach to examining the District’s current performance, assessment of this performance against criteria established by the Center for Public Safety Excellence (CPSE) Commission on Fire Accreditation International (CFAI) and developing a plan for continuous improvement. While this document is one of the key elements in fire department accreditation, the District has used this self-assessment process for six years prior to formally moving forward in the accreditation process. The FESSAM is reviewed and updated annually.

Volume 5-Long Term Financial Plan: Long term financial planning involves financial forecasting and strategizing how to meet both current and future needs of the community. This volume of the Integrated Comprehensive Plan provides a financial forecast projecting revenues and expenditures over a long-term period, using assumptions about economic conditions, future spending scenarios, and other salient variables. The District Overview is reviewed and updated on a two-year cycle.

Volume 6-Capital Projects Plan: This volume of the Integrated Comprehensive Plan establishes a long term, prioritized schedule of capital investments to ensure that the District has sufficient resources to fulfill its mission and that critical assets are repaired or replaced before they reach their end of useful life. The Capital Projects Plan provides a basis for development of the District’s annual Capital Budget. The Capital Projects Plan is updated annually.

Capital Projects Planning

There are many benefits that result from an effective capital planning process. The process of prioritizing capital investments can make sure key assets are repaired or replaced before their end of service life or critical failure. In addition, a sound capital projects plan allows us to engage our community in understanding the costs and benefits of maintaining capital infrastructure.

The Central Whidbey Island Fire & Rescue (CWIFR) Capital Projects Plan supports achievement of the goals and objectives established through the Districts Strategic Plan and Standard of Coverage and Community Risk Reduction Plans. The District's Long Term Financial plan and Annual Capital Budget appropriations provide the means to implement this plan.

Overview

For several years Central Whidbey Island Fire & Rescue deferred significant capital projects pending completion of the District's strategic plan and clarification of financial strategies. Based on direction provided by the Board of Fire Commissioners to replace equipment when required and to fully fund the Capital Projects Fund, the following approach was been taken in prioritizing capital projects.

- Take a proactive approach to improving operational capability and maintenance of adequate infrastructure to support district operations
- Begin the process of replacing staff vehicles and apparatus that has reached their end of life
- Reduce the District's total vehicle inventory and *increase* the effectiveness and efficiency
- Avoid unscheduled capital projects resulting from malfunction and equipment failure

Capital Project Policies

The following budget policies have been established by the Board of Fire Commissioners and are delineated in Draft Standard Operating Guideline 1.3.10 *Capital Projects* (CWIFR, 2017).

- The District will maintain its physical assets at a level that is adequate to protect its capital investment and to minimize future maintenance and replacement cost. The District budget will provide for adequate maintenance and orderly replacement of capital assets.
- CWIFR will maintain a multi-year plan for capital improvements, inclusive of capital maintenance projects that are in alignment with the District's Strategic Plan, update it annually and make all capital improvements in accordance with the plan,
- The capital and operating budget processes shall be integrated to allow consideration of operating and capital expenditures within the context of the current and projected fiscal condition of the District.

- The District will endeavor to transfer sufficient revenue from the General Fund to the General Capital Projects Fund on an annual basis to fund replacement of capital assets having a useful life of 25 years or less (e.g., fire apparatus, other vehicles, and equipment) with current revenue.
- The District will consider issuance of debt for large capital projects having a useful life more than 25 years (e.g., facilities).

Overview of the Capital Projects Fund

Prior to 2012, the District's finances were managed using a single fund (General Fund) and capital purchases were made using the unappropriated balance of the fund. The Capital Projects Fund was established in 2012 to accumulate assets for future capital purchases and for current capital expenditures. While this fund was established in 2012, Island County as the District's treasurer continued to maintain the District's funds in a single account. In 2015, the CWIFR directed Island County to segregate the District's funds into separate accounts by fund.

Capital expenditures are for items having a cost greater than \$5,000 and a service life of greater than three years (e.g., major equipment, fire apparatus, and fire stations). In addition, items with a unit price less than \$5,000, but purchased in large enough quantity to reach the \$5,000 threshold have been combined into capital projects. Examples of these types of projects include purchase of Automatic External Defibrillators (AEDs) and fire hose and appliances.

When this fund was established, it was substantially underfunded. A key element in the District's financial planning and successful passage of a lid lift in February 2012 was to fully fund the General Capital Projects Fund based on projected capital expenditures for apparatus and equipment.

Since the inception of the Capital Projects Fund in 2012, the District has transferred revenue from the General Fund to the Capital Projects Fund at an accelerated rate to meet Capital Projects Fund cash flow requirements and increase the percentage of full funding for anticipated capital projects. While progress has been made in developing sufficient funds to meet the District's requirements for apparatus and equipment, there has not been sufficient revenue to set aside funds for capital facilities projects.

Capital Projects Planning Process

The CWIFR Capital Projects Plan identifies the District's capital needs over a ten-year planning horizon. This plan includes projects completed in the previous year as well as those projected for the next ten years in order to maintain a vision for the future. The Capital Projects Plan is reviewed and updated as necessary on an annual basis. As the capital planning process impacts on the District's Capital Fund Budget, planning is integrated with the District's budgeting process. Table 1 illustrated the CWIFR Capital Planning Calendar which provides alignment with the budget process.

Table 1. CWIFR Capital Planning Calendar

Month	Planning Activity
January	Submittal of proposed (new) capital projects.
February-March	Review of proposed (new) capital projects for consistency with the District's Strategic Plan and Fire and Emergency Services Self-Assessment Manual (FESSAM). Assessment of the fiscal viability of the proposed (new) capital projects and identified funding mechanism. Develop proposed Capital Plan, extending the plan by one additional year and adding new projects that have been determined to be consistent with the District's Strategic Plan and FESSAM.
April	Review of the District's proposed revisions to the Capital Projects Plan by the Board of Fire Commissioners Revision to the proposed Capital Plan based on Board direction.
May	Adoption of the District's Revised Capital Plan by the Board of Fire Commissioners
July	Development of the Annual Capital Projects Fund Budget
August	Develop the Proposed District Budget (inclusive of General and Capital Funds)
September	Citizen Budget Review (inclusive of General and Capital Funds)
October	The District's Annual Budget (inclusive of the Capital Projects Fund Budget) submitted to the Board of Fire Commissioners Public budget hearing Revisions to the District's Annual Budget (if necessary)
November	Adoption of the District's Annual Budget Adopted Annual Budget submitted to the Island County Auditor

The Capital Projects Plan does not involve appropriation of funds, but simply serves as a planning tool. The upcoming year's capital projects are incorporated into the annual budget process, with appropriations made through adoption of the budget. Mid-year changes to the Capital Plan and related budget items must be presented to the Board of Fire Commissioners for adoption of the revision and budget adjustment as needed to appropriate funds for the revised project.

Continuing Challenges

The District anticipates being able to meet required capital expenses related to apparatus and equipment without debt. However, revenue is not sufficient to also fund facilities capital projects. In addition, CWIFR will be unable to maintain current service levels and investment in apparatus and equipment capital projects beyond 2021 without increased revenue.

Capital Facilities

In 2015, the District worked with the architectural and engineering firm of Rice Fergus Miller to complete a long range (50 to 75 year) plan to address District facilities requirements. The purpose of this study was to assess the physical and operational aspects of CWIFR's facilities, identify how they should be improved, what it will cost to undertake those improvements, and a strategy for accomplishing that.

In general, the District's facilities are in relatively good physical condition, but lack modern contamination control features (e.g., decontamination facilities, proper storage of personal protective equipment), have limited storage space, living quarters, and overnight accommodation for on-duty personnel.

Several improvements were identified as operationally critical at all of the stations irrespective of the issues associated with physical space. These included emergency generators (Station 51), fire and smoke alarms (Station 54), fire sprinklers (Stations 53 and 54), earthquake resistance, improved heating and ventilation systems, and diesel exhaust removal systems.

Operational improvements needed at all stations include additional space for proper cleaning and storage of personal protective equipment, equipment decontamination, physical fitness, and additional overnight accommodations to support increased response capabilities (volunteer, part-time, and full-time staff). In addition, the plan identified immediate programmatic needs for maintenance of District vehicles. In addition, potential partnerships with other agencies for regional fire and emergency services vehicle maintenance were examined along with the programmatic needs for this type of shared service.

Comprehensive Capital Projects Funding

Given the expense of facilities related capital improvements, constitutional and statutory limitations on revenue, and the District's current capital reserves, it will be necessary for the District to use voter approved debt to finance major capital projects. Expenses related to a voter approved bond were included in the 2017 District Budget pending a decision to place a bond measure before the voters. Following adoption of the 2017 District Budget, the Board of Fire Commissioners provided direction to staff to proceed on the assumption that the potential voter approved bond would address the following capital projects.

- Renovation and expansion of Station 53 on Race Road in Coupeville
- Replacement of three Type 1 Fire Engines based on reaching their service life of 25 years

Inclusion of the replacement of three Type 1 Fire Engines in the voter approved bond would allow the District to achieve full funding within the Capital Projects Fund for other apparatus, equipment and minor capital facilities projects such as an auxiliary power generator at Station 51 and diesel exhaust removal systems at Station 51 and 54. In addition, the reduction in transfer of funds from the General Fund to the Capital Projects Fund (based on bond funding for replacement of the three Type 1 Engines) will allow continuation of current service delivery levels until 2024.

2018-2028 Capital Projects Schedule

Central Whidbey Island Fire & Rescue's 2018-2028 Capital Projects Schedule is presented in Table 2 as a General Capital Projects Fund Cash Flow Statement. Project descriptions, justification, and funding are presented in subsequent sections of this plan.

A major assumption in this plan is passage of a voter approved bond in November 2017. Should the Board of Fire Commissioners not proceed with placing a bond on the ballot or if the voters fail to approve the measure, this plan will need to be revised to address critical apparatus and equipment projects and defer needed capital facilities improvements. In this scenario, additional revenue will be required within the next several years to maintain current service levels. Additional information is provided in the District's *Integrated Comprehensive Plan Volume 5-Long Term Financial Plan* (CWIFR, 2017).

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Table 2. 2018-2028 Capital Projects Schedule

<i>Apparatus</i>		2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
594 22 64 20	Replace Apparatus 0703 (A53) with R53	\$70,000											
594 22 64 34	Replace Apparatus 0601 & 0602 (B53 & B54)		\$300,000										
594 22 64 15	Replace Apparatus 9402 (R51)			\$85,000									
594 22 64 22	Apparatus 9401 (E51) Replacement				\$652,925								
594 22 64 28	Apparatus 9601 (E512) Replacement				\$652,925								
594 22 64 29	Apparatus 9602 (E54) Replacement				\$652,925								
574 22 64 02	Replace Apparatus 1301 (S591)					\$17,500							
594 22 64 16	Replace Apparatus 9501 (S593 Fleet Services)					\$120,000							
574 22 64 36	Replace Apparatus 1201 (R35)												\$80,000
594 22 64 37	Replace Apparatus 1501 (C505)												
594 22 64 12	Replace Apparatus 1402) (C502)								\$46,500				
<i>Equipment</i>													
594 22 64 14	Hose & Appliances	\$12,000	\$9,000	\$9,135	\$9,272	\$9,411	\$9,552	\$9,696	\$9,841	\$9,989	\$10,138	\$10,291	\$10,445
594 22 64 35	Marine 5 Electronics Upgrade	\$13,000											
594 22 64 31	Extrication Equipment Replacement				\$45,000								
594 22 64 21	SCBA/Cylinder Replacement				\$299,500								
594 22 64 05	Replace/Upgrade AEDs			\$29,931							\$33,261		
594 22 64 19	Thermal Imager (TI) Replacement											\$36,000	
<i>Technology Infrastructure</i>													
594 22 64 33	Radio Communications System ¹												
594 22 64 11	Server Replacement		\$22,000					\$25,000					\$27,000
594 22 64 38	Firewall Replacement		\$6,000										
594 22 64 24	IT Infrastructure Improvements ²												
<i>Facilities</i>													
594 22 63 06	Station 53 Water System Upgrade												
594 22 63 05	Station 53 Renovation & Expansion		\$5,417,000										
594 22 63 08	Station 51 Backup Power Generator			\$45,000									
594 22 63 09	Station 51 Exhaust Removal System					\$80,500							
594 22 63 10	Station 54 Exhaust Removal System					\$80,500							
594 22 63 07	Replace Roof Covering Burn Building/Tower					\$6,000							
Not Scheduled	Station 51 Renovation & Expansion												
Not Scheduled	Station 54 Renovation & Expansion												
Total Expenditures		\$95,000	\$5,754,000	\$169,066	\$2,312,547	\$313,911	\$9,552	\$34,696	\$56,341	\$9,989	\$43,399	\$46,291	\$117,445

¹ Radio communication system capital maintenance and upgrades are budgeted at \$10,000/year. Specific upgrades will be identified in the Technology Plan (under development).

² IT Infrastructure capital maintenance and upgrades are budgeted at \$4,000/year. Specific upgrades will be identified in the Technology Plan (under development).

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2017 Capital Projects

Approved Projects

The following capital project is proposed for 2017:

Apparatus

594 22 64 20 Replace Apparatus 0703

Equipment

594 22 64 14 Hose and Appliances

594 22 64 35 Electronics Upgrade for Apparatus (1502) Marine 5

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Individual Capital Project Request and Estimate of Cost	
Project Title 594 22 64 20 Replace Apparatus 0703	Priority High
Description Originally programmed as replacement of the existing apparatus (2007 Ford Expedition SUV) with a similar vehicle, this project has been revised to replace the existing apparatus with a ¾ ton crew cab, diesel pickup and installation of related equipment (radios, warning lights).	
Purpose & Justification Apparatus 0703 is a 2007 Ford Expedition which was originally purchased and placed into service as a Command Unit. In 2015, this apparatus was re-designated as Aid 53 and used as a Medical Emergency Response Vehicle (MERV) through the end of 2016. The District's Light Apparatus Working Group has examined the District's light apparatus (Command Vehicles, MERV, Rescue, and Brush Units) to determine if the condition of existing apparatus, specific application and use, and if it is adequate for the District's short and mid-term needs. The working group identified several ongoing maintenance issues and areas in which apparatus was not fully suited for the District's short and mid-term needs that impact on this project. - Over the last seven years, the MERV has rarely been staffed by volunteer EMTs and as such as little to no impact on the District's delivery of emergency medical services. As such use of this vehicle as a MERV may be discontinued and the apparatus repurposed without negative impact. - While the existing SUV was capable of towing the prior (small) marine unit, it is not capable of towing the existing vessel and trailer. - The current marine unit and trailer is currently towed by Brush 53 (a Ford F550). However, this engine in this apparatus has had repeated mechanical failures and the combined weight of the marine unit, trailer and apparatus is near the maximum combined gross vehicle weight for this combination (due to the weight of the apparatus, water, tools, and equipment carried on the brush unit). - Purchase of a ¾ ton, crew cab, diesel pickup, would provide a suitable tow vehicle for the marine unit and special operations (Gator) trailer. In addition, this vehicle would be capable of transporting four personnel and related equipment for marine rescue and other special operations incidents. - Maintaining a consistent fleet (Command Vehicles, Marine Unit/Special Operations Trailer tow vehicle) would allow for rotation of vehicles from higher to lower mileage application, extending the useful life. - The vehicle purchased would be used as a Command Vehicle and an existing command vehicle (Apparatus 1201) will be reassigned as the tow vehicle.	
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.	

Project Title 594 22 64 20 Replace Apparatus 0703											
CFAI Performance Indicator This project supports the following two CFAI performance indicators: 6C.1 (Critical Criteria) Apparatus types are appropriate for the functions served (e.g., operations, staff support services, specialized services, and administration). 6C.2 A current replacement schedule exists for all apparatus and support vehicles based on current federal and state/provincial recognized standards, vehicle condition, department needs, and requirements.											
Status of Specifications ☐ Not Completed ☒ Completed <i>Specifications will be generated from the State Contract for Vehicles ¾ Ton Pickup. Upfit of this apparatus will be consistent with other District Command Vehicles.</i>	Procurement Process ☒ State Contract ☐ Other Joint Contract ☐ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source										
Proposed Source of Funding <table> <tr> <td>Debt</td> <td></td> </tr> <tr> <td>General Capital Projects Fund</td> <td>\$70,000</td> </tr> <tr> <td>Grant Funding (Specify)</td> <td></td> </tr> <tr> <td>Other (Estimated Surplus Value of Apparatus 0703³)</td> <td>-\$4,000</td> </tr> <tr> <td>Total</td> <td>\$66,000</td> </tr> </table>		Debt		General Capital Projects Fund	\$70,000	Grant Funding (Specify)		Other (Estimated Surplus Value of Apparatus 0703 ³)	-\$4,000	Total	\$66,000
Debt											
General Capital Projects Fund	\$70,000										
Grant Funding (Specify)											
Other (Estimated Surplus Value of Apparatus 0703 ³)	-\$4,000										
Total	\$66,000										
Estimated Change in Operational Expense In the short term, this project will have little effect on operational expense. However, the lifecycle cost of this vehicle is anticipated to be lower than the current vehicle and savings will accrue from efficiencies in maintenance of a consistent fleet.											
Submitted by Firefighter/Mechanic Mike Matros, Fleet Division Manager	Date 10/13/16										
Board of Fire Commissioners Action Funds Appropriated	Date 11/10/16										

³ Revenue generated from sale of surplus vehicles does not go directly to the Capital Projects Fund as an offset to the cost of replacement. This revenue would need to be transferred to the Capital Projects Fund through the District's budget process or mid-year budget adjustment by the Board of Fire Commissioners.

Capital Project Request and Estimate of Cost	
Project Title 594 22 64 14 Hose and Appliances	Priority High
Description In 2013, the District implemented a hose replacement plan to provide adequate tactical water supply capability, ensure fireground water supply reliability, improve fire control efficiency and maximize Washington and Survey Rating Bureau (WSRB) credit for the District's hose inventory. The objectives of this plan are to 1) maximize the District's tactical water supply and firefighting capability and 2) to maximize the credit received from the WSRB related to fire hose and appliances. This necessitates limiting the service life of fire hose to 15 years and minimizing the average age of fire hose within this lifespan. In 2017, this project focuses on replacement of small diameter hose that has reached or exceeded its useful lifespan, maintaining adequate inventory of wildland hose, and addition of 1" high pressure hose and appliances to increase tactical effectiveness and efficiency. Additional detail is provided in the Hose Replacement Plan.	
Purpose & Justification Approximately 25% of the District has fire hydrants and the remaining 75% does not. Water supply operations involve hose lays between a fire hydrant and the fire, water tender shuttles, or a combination of these two water supply methods. Application of water for fire control requires the use of hoselines stretched from fire apparatus. The standard hose inventory carried on engines and water tenders is based on assessment of water supplies, needed fire flow, and tactical requirements based on these two factors. National Fire Protection Association Standard 1961 Standard on Fire Hose (2013) specifies that fire departments should consider a 10-year maximum service life for fire hose. The Washington Survey and Rating Bureau begins to increase deficiency points assigned for fire hose inventory as it ages and provides no credit for hose that exceeds 15 years of service. The first five years of this ongoing project more than doubled the flow rate and distance over which that flow rate can be moved through hoselines. In addition, improvements in hose inventory contributed to the one class improvement of the WSRB Protection Class Rating in both the Town of Coupeville and unincorporated areas of the District. The District accelerated this project with purchase of a significant amount of used 5" hose (with substantial useful life remaining), thus shifting the sequence of hose purchase and accruing considerable savings. This action has allowed reduction in capital expenditure to achieve these objectives. See Appendix B-Hose Replacement Plan for additional detail on this project.	
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.	
CFAI Performance Indicator This project supports CFAI performance indicator 6E.2 Tools and equipment replacement is scheduled, budgeted, implemented, and is adequate to meet the agency's needs.	

Project Title 594 22 64 14 Hose and Appliances	
Status of Specifications ☐ Not Completed ☒ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☐ Competitive Bid ☒ Vendor List Procedure ☐ Sole Source
Proposed Source of Funding Debt General Capital Projects Fund \$12,000 Grant Funding (Specify) Other Total \$12,000	
Estimated Change in Operational Expense This project will minimize unscheduled operational expense for replacement of individual sections of fire hose due to failure, but will not have a significant impact on operational expense.	
Submitted by Chief Edward E. Hartin, MS, EFO, FIFireE, CFO	Date 10/10/13
Board of Fire Commissioners Action Funds Appropriated (for 2017)	Date 11/10/16

Capital Project Request and Estimate of Cost	
Project Title 594 22 64 35 Apparatus 1502 (Marine 5) Electronics Upgrade	Priority High
Description This project would upgrade the radar, sonar, and geographic positioning system (GPS) on the District's Rescue Boat (Marine 5) and would provide an I-Pad for use in accessing the Island County Communications Center (ICOM) computer aided dispatch (CAD) system during marine rescue operations.	
Purpose & Justification The existing electronics suite on the Rescue Boat is comprised of consumer grade electronic hardware that provides basic functionality, but is not fully suited to marine search and rescue operations. Operations conducted over the first year that this vessel has been in service have allowed identification of the capabilities and limitations current electronic equipment. The improved electronics suite would provide a larger screen, aiding in navigation and allowing simultaneous monitoring of position and depth of water beneath the boat. The upgraded GPS would also have the capability to plot coordinates and input a grid search pattern, significantly improving the efficiency of search operations. In addition to navigation capabilities, the electronics system would also be able to display fuel status and engine performance data, simplifying the coxswains job duties.	
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.	
CFAI Performance Indicator This project supports CFAI performance indicator 6E.1 Tools and equipment are distributed appropriately, are in sufficient quantities, and meet the operational needs of the specific functional area or program (e.g., fire suppression, community risk reduction, investigations, hazmat, etc.).	
Status of Specifications ☐ Not Completed ☒ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☒ Competitive Bid ☒ Vendor List Procedure ☐ Sole Source <i>Note: Procurement process will depend on the cost of each specific component and related installation</i>

Project Title	
594 22 64 35 Apparatus 1502 (Marine 5) Electronics Upgrade	
Proposed Source of Funding	
Debt	
General Capital Projects Fund	\$13,000
Grant Funding (Specify)	
Other	
Total	\$13,000
Estimated Change in Operational Expense	
This project should have no impact on operational expense.	
Submitted by	Date
Lieutenant James Meek, Operations Division Manager	10/13/16
Board of Fire Commissioners Action	Date
Funds Appropriated	11/10/16

2018 Capital Projects

Proposed Projects

The following capital project is schedule for 2018:

Apparatus

594 22 64 34 Replace Apparatus 0601 and 0602 (B53 and B54)

Equipment

594 22 64 14 Hose and Appliances

Technology Infrastructure

594 22 64 11 Server Replacement

594 22 64 38 Replace Computer Network Firewalls

Facilities

594 63 22 05 Station 53 Renovation and Expansion

Renovation and Expansion of Station 53 will be a multi-year project initiated in 2018. Additional detail on distribution of costs (2018-2019) will be developed a specific timeline is developed. In the long term, this will not impact cash flow in the Capital Projects Fund beyond the project completion date.

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Capital Project Request and Estimate of Cost	
Project Title 594 22 64 34 Replace Apparatus 0601 and 0602 (B53 and B54)	Priority High
Description Replace Apparatus 0601 and 0602 currently assigned as Brush 53 and Brush 54 with new Type 6 Engines before the end of their useful life. The current apparatus would be declared surplus and sold at market value. A National Incident Management System (NIMS)/National Wildfire Coordinating Group (NWCG) Type 6 Engine has a minimum pump capacity of 50 gpm with pump and roll capability, 150 gallon water tank, 300' of 1.50" hose, and 300' of 1.00" hose, and wildland firefighting equipment on an apparatus with a maximum GVWR of 19,500 lbs. CWIFR's tactical needs dictate a pumping capacity of not less than 300 gpm pump, 300 gallon water tank, and carry self-contained breathing apparatus to provide limited structural firefighting capability in areas of the community having limited access. In addition, these apparatus would be configured to provide the capability of carrying the equipment necessary to be licensed as an aid vehicle by the Washington State Department of Public Health. These apparatus would be constructed on a diesel powered, four wheel drive chassis with a GVWR of 19,500 lbs (e.g., Dodge Tradesman 5500)	
Purpose & Justification The primary impetus to replace these two vehicles earlier than originally planned is the ongoing and increasing maintenance cost related to their Ford 6.0 liter diesel engines. A secondary consideration is to improve the tactical capability of these apparatus in response to wildland and wildland/urban interface incidents while preserving capability for these apparatus to serve in a multi-role capability. Since their purchase in 2006, the District has spent \$28,683 on repair of these two apparatus in comparison to \$5,672 on preventative maintenance. This presents a high ratio of repair to maintenance, usually indicative that a vehicle is aging or being pushed to its operational limits and in need of replacement. In the case of these two apparatus, they have not yet reached their anticipated useful life and do not have a high level of operational use. The choice of power (Ford 6.0 liter diesel) and design of the apparatus (particularly the pump system) have resulted in repeated mechanical failures and substantial repair cost. Replacement of these apparatus will minimize the ongoing economic impact and impact on the District's fleet maintenance program (time spent working on repair of these vehicles negatively impacts availability of staff time for other maintenance activity).	
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.	
CFAI Performance Indicator This project supports the following two CFAI performance indicators: 6C.1 (Critical Criteria) Apparatus types are appropriate for the functions served (e.g., operations, staff support services, specialized services, and administration). 6C.2 A current replacement schedule exists for all apparatus and support vehicles based on current federal and state/provincial recognized standards, vehicle condition, department needs, and requirements.	

Project Title 594 22 64 34 Replace Apparatus 0601 and 0602 (B53 and B54)											
Status of Specifications ☒ Not Completed ☐ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☒ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source										
Proposed Source of Funding <table> <tr> <td>Debt</td> <td></td> </tr> <tr> <td>General Capital Projects Fund</td> <td>\$300,000</td> </tr> <tr> <td>Grant Funding (Specify)</td> <td></td> </tr> <tr> <td>Other (Estimated Surplus Value of Apparatus 0601 and 0602))</td> <td>-\$70,000</td> </tr> <tr> <td>Total</td> <td>\$230,000\$</td> </tr> </table>		Debt		General Capital Projects Fund	\$300,000	Grant Funding (Specify)		Other (Estimated Surplus Value of Apparatus 0601 and 0602))	-\$70,000	Total	\$230,000\$
Debt											
General Capital Projects Fund	\$300,000										
Grant Funding (Specify)											
Other (Estimated Surplus Value of Apparatus 0601 and 0602))	-\$70,000										
Total	\$230,000\$										
Estimated Change in Operational Expense As noted previously, these vehicles have incurred considerable, recurrent maintenance costs with potential for major failure, resulting in considerable expense beyond routine preventative maintenance. It is anticipated that this project will significantly reduce repair cost, likely limiting vehicle expense to that required for routine preventative maintenance.											
Submitted by Firefighter/Mechanic Mike Matros, Fleet Division Manager	Date 4/24/17 (Revision)										
Board of Fire Commissioners Action Pending	Date										

Capital Project Request and Estimate of Cost	
Project Title 594 22 64 14 Hose and Appliances	Priority High
Description In 2013, the District implemented a hose replacement plan to provide adequate tactical water supply capability, ensure fireground water supply reliability, improve fire control efficiency and maximize Washington and Survey Rating Bureau (WSRB) credit for the District's hose inventory. The objectives of this plan are to 1) maximize the District's tactical water supply and firefighting capability and 2) to maximize the credit received from the WSRB related to fire hose and appliances. This necessitates limiting the service life of fire hose to 15 years and minimizing the average age of fire hose within this lifespan. In 2018, this project focuses on replacement of small diameter hose (1" through 3") that has reached or exceeded its useful lifespan, maintaining adequate inventory of wildland hose, and addition of 1" high pressure hose and appliances to increase tactical effectiveness and efficiency. Additional detail is provided in the Hose Replacement Plan.	
Purpose & Justification Approximately 25% of the District has fire hydrants and the remaining 75% does not. Water supply operations involve hose lays between a fire hydrant and the fire, water tender shuttles, or a combination of these two water supply methods. Application of water for fire control requires the use of hoselines stretched from fire apparatus. The standard hose inventory carried on engines and water tenders is based on assessment of water supplies, needed fire flow, and tactical requirements based on these two factors. National Fire Protection Association Standard 1961 Standard on Fire Hose (2013) specifies that fire departments should consider a 10-year maximum service life for fire hose. The Washington Survey and Rating Bureau begins to increase deficiency points assigned for fire hose inventory as it ages and provides no credit for hose that exceeds 15 years of service. The first five years (2013-2017) of this ongoing project more than doubled the flow rate and distance over which that flow rate can be moved through hoselines. In addition, improvements in hose inventory contributed to the one class improvement of the WSRB Protection Class Rating in both the Town of Coupeville and unincorporated areas of the District. The District accelerated this project with purchase of a significant amount of used 5" hose (with substantial useful life remaining), thus shifting the sequence of hose purchase and accruing considerable savings. This action has allowed reduction in capital expenditure to achieve these objectives. See Appendix B-Hose Replacement Plan for additional detail on this project.	
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.	
CFAI Performance Indicator This project supports CFAI performance indicator 6E.2 Tools and equipment replacement is scheduled, budgeted, implemented, and is adequate to meet the agency's needs.	

Project Title 594 22 64 14 Hose and Appliances	
Status of Specifications ☐ Not Completed ☒ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☐ Competitive Bid ☒ Vendor List Procedure ☐ Sole Source
Proposed Source of Funding Debt General Capital Projects Fund \$9,000 Grant Funding (Specify) Other Total \$9,000	
Estimated Change in Operational Expense This project will not impact operational expenses.	
Submitted by Lieutenant James Meek, Operations Division Manager	Date 4/24/17 (Revision)
Board of Fire Commissioners Action Pending	Date

Capital Project Request and Estimate of Cost	
Project Title 594 22 64 11 Replace Computer Server	Priority High
Description The project involves replacement of the District's main computer server and addition of a backup server. The new server will have dual power supplies; an eight core 2.60 GHz processor; 32 GB of RAM; and six, one TB Hard Drives in a RAID array to maximize reliability. In addition, the replacement server will provide faster performance and lower power consumption than the current machine. The backup server would provide off-site backup and basic server functionality for the District's systems in the event of main computer server failure.	
Purpose & Justification The existing server was purchased in 2012 and will reach its anticipated end of useful life in 2018. Ategan, the District's contract IT service provider reports increasing issues with the current server, indicating an increasing potential for failure (but anticipates that the server will remain serviceable until 2018). In addition to replacement of the existing hardware, the current server and e-mail software also requires replacement. The current server is running Microsoft Small Business Server 2011, which is no longer supported by Microsoft. This server software included integration of Microsoft Exchange Server (e-mail). Small Business Server 2011 will need to be replaced with Microsoft Server 2016, which does not include integrated Exchange Server, requiring that the District purchase a separate license for Microsoft Exchange 2016. The District currently uses a desktop computer with an external hard drive as off-site backup for the server. This machine backs up a complete image of the server, but does not have the ability to run that image and function as a replacement in the event of a server failure. Given the current network configuration, failure of the District's main computer server would not result in significant data loss, but would result in substantial down time of critical District systems until a replacement server could be purchased and installed. Purchase and installation of a remote backup server at Station 51 would provide essential redundancy to ensure continuity of operations. This server would replace the current desktop computer used for remote backup.	
Strategic Goal and Initiative This project supports the District's strategic goal to maintain adequate infrastructure to support operations [Resources] and related initiative to maintain the District's technological infrastructure to maximize effectiveness, efficiency, and minimize cost over its lifecycle.	
CFAI Performance Indicator This project supports CFAI performance indicator 9C.3 Technological resources (e.g., telecommunications equipment, computer systems, general business software) and the information management system is appropriate to support the agency's need. Access is available to technical support personnel with expertise in the systems deployed by the agency. Documentation and analysis of data (e.g., formative, process, impact, and outcome measurement are accessible to the agency.	
Status of Specifications ☐ Not Completed ☒ Completed	Procurement Process ☒ State Contract ☐ Other Joint Contract ☐ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source

Project Title	
594 22 64 11 Replace Computer Server	
Proposed Source of Funding	
Debt	
General Capital Projects Fund	\$22,000
Grant Funding (Specify)	
Other	
Total	\$22,000
Estimated Change in Operational Expense	
This project will not have significant impact on operational expense as it is simply replacement of existing equipment (main computer server at Station 53 and replacement of a desktop computer with a backup server at Station 51).	
Submitted by	Date
Chief Edward E. Hartin, MS, EFO, FIFireE, CFO	4/24/17 (Revision)
Board of Fire Commissioners Action	Date
Pending	

Capital Project Request and Estimate of Cost	
Project Title 594 22 64 38 Replace Computer Network Firewalls	Priority High
Description This project involves replacement of the computer network firewalls at Stations 51, 53, and 54.	
Purpose & Justification A firewall is a combination of hardware and related software that protects a computer network from external threats such as viruses and worms. Firewalls can also provide specific functionality to establish virtual private networks (VPN) and to manage mobile devices (such as I-Pads) and their access to the network. The specific firewalls specified provide the ability to establish a VPN between the network at Station 53 and each of the District's other fire stations, providing safe and controlled network and server access from these remote locations. In addition, the firewalls specified would provide the capability to manage the District's mobile devices. At present, the District maintains an inventory of 15 i-Pads (four with cellular access, used as mobile data tablets in apparatus and 11 with WIFI only access for use in the Command Training Center (CTC) and by the Board of Fire Commissioners). Each of these mobile devices must currently be managed individually, requiring on-site physical access. Addition of mobile device management functionality to the firewalls would simplify the work required to manage these devices.	
Strategic Goal and Initiative This project supports the District's strategic goal to maintain adequate infrastructure to support operations [Resources] and related initiative to maintain the District's technological infrastructure to maximize effectiveness, efficiency, and minimize cost over its lifecycle.	
CFAI Performance Indicator This project supports CFAI performance indicator 9C.3 Technological resources (e.g., telecommunications equipment, computer systems, general business software) and the information management system is appropriate to support the agency's need. Access is available to technical support personnel with expertise in the systems deployed by the agency. Documentation and analysis of data (e.g., formative, process, impact, and outcome measurement are accessible to the agency.	
Status of Specifications ☐ Not Completed ☒ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☐ Competitive Bid ☐ Vendor List Procedure ☒ Sole Source

Project Title	
594 22 64 11 Replace Computer Server	
Proposed Source of Funding	
Debt	
General Capital Projects Fund	\$6,000
Grant Funding (Specify)	
Other	
Total	\$6,000
Estimated Change in Operational Expense	
This project will not have significant impact on operational expense as it is simply replacement of existing equipment (firewalls at Stations 51, 53, and 54).	
Submitted by	Date
Chief Edward E. Hartin, MS, EFO, FIFireE, CFO	4/24/17
Board of Fire Commissioners Action	Date
Pending	

Capital Project Request and Estimate of Cost	
Project Title 594 63 22 05 Station 53 Renovation and Expansion	Priority High
Description This building was originally constructed in 1992 to replace smaller stations in Admirals Cove and Ledgewood. In 2000 the three additional apparatus bays were added and a single wide manufactured home was located behind the Station to provide limited living quarters for on-duty personnel. This project involves construction renovation of facilities at Station 53 to accomplish the following: <i>Response Time Improvement</i> • Moving the living quarters and sleep rooms from the singlewide manufactured home behind the station into the main fire station and closer to apparatus (improving turnout time) • Increasing the number of sleeping rooms to provide six beds (and increase from the current three) to accommodate on-duty volunteers as well as full-time and part-time staffing. <i>Operational Upgrades</i> • Increasing the floor area of the station from approximately 5000 square feet to 10,000 square feet to provide adequate space for operational needs, living quarters, and administration. • Increased classroom facilities for on-site firefighter training and community use. • Improved mechanical systems with lower maintenance and operating costs. • Environmental improvements including lead paint removal and improve septic and storm water systems. • Sufficient ceiling height in the apparatus maintenance area to permit use of an apparatus lift. <i>Health and Safety Improvements</i> • Diesel exhaust removal system • Decontamination facilities meeting current standards • Personal protective equipment storage • Adequate clearance around apparatus • Fire suppression (sprinkler) system to protect personnel and the taxpayer investment	
Purpose & Justification Over time staffing and operational demands have outgrown the current facility. As identified in the description of this project, renovation and expansion addresses three key needs, improvement in response time (first unit and effective response force), upgrade of operational capability including provision of adequate space and upgrade of mechanical and environmental systems, and improvements in health and safety. Additional detail on assessment of the condition of this facility as well as operational limitations and programmatic requirements is provided in the District's Facilities Plan (Rice Fergus Miller, 2015).	
Strategic Goal and Initiative Maintain adequate infrastructure to support operations. [Resources] and related initiatives to maintain District facilities to minimize operational cost over their lifecycle and Maintain the District's apparatus and equipment to minimize operational cost over their lifecycle (by providing adequate space to support the fleet maintenance function).	

Project Title	
594 63 22 05 Station 53 Renovation and Expansion	
CFAI Performance Indicator	
This project addresses the following three CFAI Performance Indicators: 6A.1 The development, construction, or purchase of physical resources is consistent with the agency's goals and strategic plan. 6B.1 Each function or program has adequate facilities and storage space. (e.g., operations, community risk reduction, training, support services and administration). 6B.3 (Critical Criteria) Facilities comply with federal, state/provincial, and local codes and regulations at the time of construction, required upgrades for safety are identified, and where resources allow, addressed. For those items that warrant further attention, a plan for implementation is identified in the agency's long term capital improvement plan (i.e. fire alarm systems, sprinkler system, seismic, vehicle exhaust system, asbestos abatement, etc.).	
Status of Specifications	Procurement Process
☒ Not Completed ☐ Completed	☐ State Contract ☐ Other Joint Contract ☒ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source
Proposed Source of Funding	
Debt	\$5,417,000
General Capital Projects Fund (Multi-Year 2018-2019)	
Grant Funding (Specify)	
Other	
Total	\$5,417,000
Estimated Change in Operational Expense	
While the station area is being doubled, it is anticipated that the expense of fuel for heating and electrical expense will not increase substantially due to increases in efficiency in electrical and heating, ventilation, and air conditioning (HVAC) systems. Maintenance expenses are anticipated to increase slightly due to increased building floor area. However, much of this floor area increase is in the apparatus room and other work areas, which have relatively minor maintenance requirements in comparison to living quarters, classrooms, and administrative space.	
Submitted by	Date
Chief Edward E. Hartin, MS, EFO, FIFireE, CFO	4/24/17 (Revision)
Board of Fire Commissioners Action	Date
Pending	

2019 Capital Projects

Proposed Projects

The following capital projects are scheduled for 2019:

Apparatus

594 22 64 15 Replace Apparatus 9402 (R51)

Equipment

594 22 64 14 Hose and Appliances

594 22 64 05 Replace/Upgrade Automatic External Defibrillators (AED)

Facilities

594 22 63 05 Station 53 Renovation and Expansion (Continuation of Project Started in 2019)

594 22 63 08 Station 51 Backup Generator

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Capital Project Request and Estimate of Cost	
Project Title 594 22 64 15 Replace Apparatus 9402 (R51)	Priority High
Description This project provides replacement for Apparatus 9402, presently in service as Rescue 51. This apparatus serves as a breathing air support unit and lighting plant as well as a light rescue and licensed aid vehicle. The replacement vehicle will serve breathing air support, traffic control and utility response functions as well as being a licensed aid vehicle. To maximize fleet flexibility and minimize maintenance cost, this apparatus will be on the District's standard ¾ ton, diesel, 4 wheel drive platform used for command vehicles and rescue apparatus. Apparatus 1501 will be reassigned as Rescue 51 and the new vehicle placed in the higher mileage role as a new Command Vehicle. In addition to the cost of the vehicle this project includes an estimated \$15,000 to replace the cascade system currently installed in Apparatus 9204 with an upgraded system inclusive of 6000 psi air storage cylinders and a self-contained breathing apparatus (SCBA) cylinder fill station compliant with the requirements of National Fire Protection Association 1901 Standard for Automotive Fire Apparatus.	
Purpose & Justification Originally scheduled for replacement in 2014, replacement was deferred as the vehicle is was good condition with low maintenance cost. Replacement in 2019 will allow upgrade of the breathing air storage system prior to replacement of self-contained breathing apparatus (potentially with higher pressure requirement) in 2020.	
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.	
CFAI Performance Indicator This project supports the following two CFAI performance indicators: 6C.1 (Critical Criteria) Apparatus types are appropriate for the functions served (e.g., operations, staff support services, specialized services, and administration). 6C.2 A current replacement schedule exists for all apparatus and support vehicles based on current federal and state/provincial recognized standards, vehicle condition, department needs, and requirements.	
Status of Specifications ☐ Not Completed ☒ Completed <i>Specifications will be generated from the State Contract for Vehicles ¾ Ton Pickup. Upfit of this apparatus will be consistent with other District Command Vehicles.</i>	Procurement Process ☒ State Contract ☐ Other Joint Contract ☐ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source

Project Title	
594 22 64 15 Replace Apparatus 9402 (R51)	
Proposed Source of Funding	
Debt	
General Capital Projects Fund	\$85,000
Grant Funding (Specify)	
Other (Estimated Surplus Value of Apparatus 9402)	-\$2,500
Total	\$82,500
Estimated Change in Operational Expense	
In the short term, this project will have little effect on operational expense. However, the lifecycle cost of this vehicle is anticipated to be lower than the current vehicle and savings will accrue from efficiencies in maintenance of a consistent fleet.	
Submitted by	Date
Firefighter/Mechanic Mike Matros, Fleet Division Manager	4/24/17 (Revision)
Board of Fire Commissioners Action	Date
Pending	

Capital Project Request and Estimate of Cost	
Project Title 594 22 64 14 Hose and Appliances	Priority High
Description This project provides for replacement of fire hose at it reaches its 15-year end of service life. Replacing 1/15th of the District's hose annually accomplishes this objective and minimizes the mean age of in-service fire hose. As the original purchase of fire hose was not done in a distributed manner, the amount of reserve hose will fluctuate as replacement is shifted to a regular schedule.	
Purpose & Justification Approximately 25% of the District has fire hydrants and the remaining 75% does not. Water supply operations involve hose lays between a fire hydrant and the fire, water tender shuttles, or a combination of these two water supply methods. Application of water for fire control requires the use of hoselines stretched from fire apparatus. The standard hose inventory carried on engines and water tenders is based on assessment of water supplies, needed fire flow, and tactical requirements based on these two factors. National Fire Protection Association Standard 1961 Standard on Fire Hose (2013) specifies that fire departments should consider a 10-year maximum service life for fire hose. The Washington Survey and Rating Bureau (WSRB) begins to increase deficiency points assigned for fire hose inventory as it ages and provides no credit for hose that exceeds 15 years of service. The first five years (2013-2017) of this project more than doubled the flow rate and distance over which that flow rate can be moved through hoselines. In addition, improvements in hose inventory contributed to the one class improvement of the WSRB Protection Class Rating in both the Town of Coupeville and unincorporated areas of the District. Now, six years into this ongoing project, the District has reduced the age of our fire hose inventory to within the maximum specified by the WSRB and now focuses on maintaining the maximum age and minimizing median age of the District's hose inventory through regularly scheduled replacement. See Appendix B-Hose Replacement Plan for additional detail on this project.	
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.	
CFAI Performance Indicator This project supports CFAI performance indicator 6E.2 Tools and equipment replacement is scheduled, budgeted, implemented, and is adequate to meet the agency's needs.	
Status of Specifications ☐ Not Completed ☒ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☐ Competitive Bid ☒ Vendor List Procedure ☐ Sole Source

Project Title	
594 22 64 14 Hose and Appliances	
Proposed Source of Funding	
Debt	
General Capital Projects Fund	\$9,135
Grant Funding (Specify)	
Other	
Total	\$9,135
Estimated Change in Operational Expense	
This project will not impact operational expenses.	
Submitted by	Date
Lieutenant James Meek, Operations Division Manager	4/24/17 (Revision)
Board of Fire Commissioners Action	Date
Pending	

Capital Project Request and Estimate of Cost											
Project Title 594 22 64 05 Replace/Upgrade Automatic External Defibrillators (AED)	Priority Moderate										
Description Replacement of eight LifePak 1000 Automatic External Defibrillators (AED) carried on the District's licensed aid vehicles. An AED is a lightweight, portable device that delivers an electric shock through the chest to the heart. The shock can potentially stop an irregular heart beat (arrhythmia) and allow a normal rhythm to resume following sudden cardiac arrest (SCA).											
Purpose & Justification In 2012 & 2013, the District purchased eight LifePak 1000 AEDs. This equipment has a projected useful life of approximately eight years (Department of the Army, 1992; American Hospital Association, 2013) and should be replaced in 2020 to maintain the equipment required by on licensed aid vehicles (WAC 246-976-300).											
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.											
CFAI Performance Indicator This project supports CFAI performance indicator 6E.2 Tools and equipment replacement is scheduled, budgeted, implemented, and is adequate to meet the agency's needs.											
Status of Specifications ☐ Not Completed ☒ Completed	Procurement Process ☒ State Contract ☐ Other Joint Contract ☐ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source										
Proposed Source of Funding <table border="0" style="width: 100%;"> <tr> <td>Debt</td> <td></td> </tr> <tr> <td>General Capital Projects Fund</td> <td style="text-align: right;">\$29,931</td> </tr> <tr> <td>Grant Funding (Specify)</td> <td></td> </tr> <tr> <td>Other</td> <td></td> </tr> <tr> <td>Total</td> <td style="text-align: right;">\$29,931</td> </tr> </table>		Debt		General Capital Projects Fund	\$29,931	Grant Funding (Specify)		Other		Total	\$29,931
Debt											
General Capital Projects Fund	\$29,931										
Grant Funding (Specify)											
Other											
Total	\$29,931										

Project Title 594 22 64 05 Replace/Upgrade Automatic External Defibrillators (AED)	
Estimated Change in Operational Expense No change in operational expense is anticipated.	
Submitted by Firefighter Alex Majestic, EMS Program Manager	Date 4/24/17 (Revision)
Board of Fire Commissioners Action Pending	Date

Capital Project Request and Estimate of Cost	
Project Title 594 22 63 Station 51 Emergency Power Generator	Priority High
Description Station 51, was constructed in 2004 as a joint venture with Whidbey Island Hospital District (dba WhidbeyHealth). Due to cost constraints, this facility was built without an emergency power generator, but plans included adding a generator in Phase II construction of an expanded facility (which has not happened to date). A generator pad, propane tank, and electrical conduit were installed in anticipation of adding an emergency power generator. While originally identified as a need in 2004 when the station was constructed, installation of an emergency power generator was restated as a priority in the District's Capital Facilities Plan (Rice Fergus Miller, 2015). This project would provide an adequately sized emergency power generator to serve current and future needs and be installed in compliance with the <i>International Building Code (IBC) (2015)</i>, <i>International Fire Code (IFC)(2015)</i> and current standards such as <i>National Fire Protection Association (NFPA) 70 National Electrical Code (2017)</i>, <i>NFPA 110 Standard for Emergency and Standby Power Systems (2016)</i> and <i>FPA 111 Standard on stored electrical energy emergency and standby power systems</i>. At the present time, there is no specific provision in the Interlocal Agreement between Central Whidbey Island Fire & Rescue (CWIFR) and WhidbeyHealth that addresses cost share arrangements between the agencies for capital improvements or maintenance. The agencies own the land on which this facility is built on a 50%/50% basis and the building on a 66.66% CWIFR/33.33% WhidbeyHealth based on each agencies proportional cost of constructing the original facility. Work is ongoing to address how capital improvement, maintenance, and adjustments in ownership and cost share will be approached subsequent to expansion of this facility by one, the other, or both agencies. At present it is assumed that the cost share for the emergency power generator project would be on a 66.66%/33.33% basis consistent with current share of building ownership.	
Purpose & Justification Central Whidbey Island experiences frequent power outages during fall and winter wind storms and has significant potential for extended power outages in the event of a seismic event. As such critical facilities such as fire and rescue stations must have reliable sources of sustained electrical power to maintain sustained operations. The Federal Emergency Management Agency (FEMA) identifies fire, rescue, ambulance, and police stations, and emergency vehicle garages as critical facilities (Applied Technology Council, 2014). Island County Multi-Jurisdiction Hazard Mitigation Plan 2015 Update Volume 1: Planning-Area-Wide Elements (Bridgeview Consulting, 2015) and Island County Multi-Jurisdiction Hazard Mitigation Plan 2015 Update Volume 2: Planning Partner Annexes (Bridgeview Consulting, 2015) identify earthquake and severe storms as two of the top three hazards facing the community. Volume 2 of this plan also identifies ensuring emergency power at all fire stations as a priority initiative for hazard mitigation. In addition, The Washington Survey and Rating Bureau (WSRB) Community Protection Class Grading Schedule (WSRB, 2013) assesses a 10% penalty for fire stations not equipped with a backup power supply.	
Strategic Goal & Initiative This project supports the District's strategic goal to maintain adequate infrastructure to support operations and the related initiative to maintain District facilities to minimize operational cost over their lifecycle.	

Project Title 594 22 63 Station 51 Emergency Power Generator	
CFAI Performance Indicator This project supports CFAI Performance Indicator 6A.1 The development, construction, or purchase of physical resources is consistent with the agencies goals and strategic plan.	
Status of Specifications ☐ Not Completed ☐ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☒ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source
Proposed Source of Funding Debt General Capital Projects Fund \$45,000 Grant Funding (Specify) Other Total \$45,000	
Estimated Change in Operational Expense It is estimated that operational expenses would increase by \$600 for the cost of annual inspection and testing of the generator and an additional \$200 for propane to fuel the generator weekly tests and limited power outages (undetermined duration on an annual basis, but are commonly limited to a period of several hours per occurrence).	
Submitted by Lieutenant Derik Vrable, Facilities Division Manager	Date 4/24/17
Board of Fire Commissioners Action	Date

2020 Capital Projects

Proposed Projects

The following capital projects are proposed for 2020:

Apparatus

594 22 64 22 Replace Apparatus 9401 (E51)

594 22 64 28 Replace Apparatus 9601 (E512)

594 22 64 29 Replace Apparatus 9602 (E54)

Equipment

594 22 64 14 Hose and Appliances

594 22 64 31 Extrication Equipment Replacement

594 22 64 21 Self-Contained Breathing Apparatus & Cylinder Replacement

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Capital Project Request and Estimate of Cost	
Project Title 594 22 64 22 Replace Apparatus 9401 (currently assigned as Engine 51)	Priority High
Description Apparatus 9401 is a National Incident Management System Type 1 Engine equipped with a 1500 gpm pump and 1000 gallon water tank. This apparatus also carries 1100' of 5" supply hose, 1000' of 3" hose, 500' of 2" hose, and 500' of 1-3/4" hose in addition to the standard complement of equipment required for a Type 1 Engine. This project involves purchase a Type I Engine and related equipment. This engine would have a pumping capacity of at least 1250 gpm and water tank capacity of 700 gallons. While pump and water tank capacity are slightly smaller than the current apparatus, this is compensated for by assignment of a water tender to Station 51 (which was not the case when Apparatus 9401 was purchased). This apparatus would be configured similarly to Apparatus 1401 to ensure consistency of the District's fleet of engines.	
Purpose & Justification Apparatus 9401 was purchased in 1994 and will have reached the end its useful life in 2019. Maintenance costs and challenges in obtaining parts have increased as this apparatus has aged. In addition, the Washington Survey and Rating Bureau do not provide credit for engines that are in excess of 25 years old (WSRB, 2013). Meeting the District's response goals and WSRB requirements for number and distribution of engine companies requires an engine at each of the District's three stations and one reserve engine. Bids will be solicited for purchase of this apparatus concurrently with replacement of Apparatus 9601 (Engine 512) and Apparatus 9602 (Engine 54). Combining the procurement process for these three apparatus will reduce the overall purchase price and necessary staff time to complete this project.	
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.	
CFAI Performance Indicator This project supports the following two CFAI performance indicators: 6C.1 (Critical Criteria) Apparatus types are appropriate for the functions served (e.g., operations, staff support services, specialized services, and administration). 6C.2 A current replacement schedule exists for all apparatus and support vehicles based on current federal and state/provincial recognized standards, vehicle condition, department needs, and requirements.	
Status of Specifications ☒ Not Completed ☐ Completed <i>Specifications are currently under development</i>	Procurement Process ☐ State Contract ☐ Other Joint Contract ☒ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source

Project Title	
594 22 64 22 Replace Apparatus 9401 (currently assigned as Engine 51)	
Proposed Source of Funding	
Debt	\$695,000
General Capital Projects Fund	
Grant Funding (Specify)	
Other	
Total	\$695,000
Estimated Change in Operational Expense	
This capital project will reduce operational expenses for apparatus maintenance in the near term due to reduction in age of the Districts fleet of engines. In addition, establishing consistent make and model of apparatus will reduce parts inventory requirements and simplify routine preventative maintenance.	
Submitted by	Date
Firefighter Mike Matros, Fleet Maintenance Division Manager	4/24/17 (Revision)
Board of Fire Commissioners Action	Date

Capital Project Request and Estimate of Cost	
Project Title 594 22 64 28 Replace Apparatus 9601 (E512)	Priority High
Description Apparatus 9601 is a National Incident Management System Type 1 Engine equipped with a 1250 gpm pump and 750 gallon water tank. This apparatus also carries 1100' of 5" supply hose, 1000' of 3" hose, 300' of 2" hose, and 500' of 1-3/4" hose in addition to the standard complement of equipment required for a Type 1 Engine. This project involves purchase a Type I Engine and related equipment. This engine would have a pumping capacity of at least 1250 gpm and water tank capacity of 700 gallons. This apparatus would be configured similarly to Apparatus 1401 to ensure consistency of the District's fleet of engines.	
Purpose & Justification Apparatus 9601 was purchased in 1996 and will reach the end its useful life in 2021. Maintenance costs and challenges in obtaining parts have increased as this apparatus has aged. In addition, the Washington Survey and Rating Bureau do not provide credit for engines that are in excess of 25 years old (WSRB, 2013). Meeting the District's response goals and WSRB requirements for number and distribution of engine companies requires an engine at each of the District's three stations and one reserve engine. Bids will be solicited for purchase of this apparatus concurrently with replacement of Apparatus 9401 (Engine 51) and Apparatus 9602 (Engine 54). Combining the procurement process for these three apparatus will reduce the overall purchase price and necessary staff time to complete this project.	
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.	
CFAI Performance Indicator This project supports the following two CFAI performance indicators: 6C.1 (Critical Criteria) Apparatus types are appropriate for the functions served (e.g., operations, staff support services, specialized services, and administration). 6C.2 A current replacement schedule exists for all apparatus and support vehicles based on current federal and state/provincial recognized standards, vehicle condition, department needs, and requirements.	
Status of Specifications ☒ Not Completed ☐ Completed <i>Specifications are currently under development</i>	Procurement Process ☐ State Contract ☐ Other Joint Contract ☒ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source

Project Title	
594 22 64 28 Replace Apparatus 9601 (E512)	
Proposed Source of Funding	
Debt	\$695,000
General Capital Projects Fund	
Grant Funding (Specify)	
Other	
Total	\$695,000
Estimated Change in Operational Expense	
This capital project will reduce operational expenses for apparatus maintenance in the near term due to reduction in age of the Districts fleet of engines. In addition, establishing consistent make and model of apparatus will reduce parts inventory requirements and simplify routine preventative maintenance.	
Submitted by	Date
Firefighter Mike Matros, Fleet Maintenance Division Manager	4/24/17 (Revision)
Board of Fire Commissioners Action	Date

Capital Project Request and Estimate of Cost	
Project Title 594 22 64 29 Replace Apparatus 9602 (currently assigned as Engine 54)	Priority High
Description Apparatus 9602 is a National Incident Management System Type 1 Engine equipped with a 1250 gpm pump and 750 gallon water tank. This apparatus also carries 1100' of 5" supply hose, 1000' of 3" hose, 300' of 2" hose, and 500' of 1-3/4" hose in addition to the standard complement of equipment required for a Type 1 Engine. This project involves purchase a Type I Engine and related equipment. This engine would have a pumping capacity of at least 1250 gpm and water tank capacity of 700 gallons. This apparatus would be configured similarly to Apparatus 1401 to ensure consistency of the District's fleet of engines.	
Purpose & Justification Apparatus 9602 was purchased in 1996 and will reach the end its useful life in 2021. Maintenance costs and challenges in obtaining parts have increased as this apparatus has aged. In addition, the Washington Survey and Rating Bureau do not provide credit for engines that are in excess of 25 years old (WSRB, 2013). Meeting the District's response goals and WSRB requirements for number and distribution of engine companies requires an engine at each of the District's three stations and one reserve engine. Bids will be solicited for purchase of this apparatus concurrently with replacement of Apparatus 9401 (Engine 51) and Apparatus 9601 (Engine 512). Combining the procurement process for these three apparatus will reduce the overall purchase price and necessary staff time to complete this project.	
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.	
CFAI Performance Indicator This project supports the following two CFAI performance indicators: 6C.1 (Critical Criteria) Apparatus types are appropriate for the functions served (e.g., operations, staff support services, specialized services, and administration). 6C.2 A current replacement schedule exists for all apparatus and support vehicles based on current federal and state/provincial recognized standards, vehicle condition, department needs, and requirements.	
Status of Specifications ☒ Not Completed ☐ Completed <i>Specifications are currently under development</i>	Procurement Process ☐ State Contract ☐ Other Joint Contract ☒ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source

Project Title	
594 22 64 29 Replace Apparatus 9602 (currently assigned as Engine 54)	
Proposed Source of Funding	
Debt	\$695,000
General Capital Projects Fund	
Grant Funding (Specify)	
Other	
Total	\$695,000
Estimated Change in Operational Expense	
This capital project will reduce operational expenses for apparatus maintenance in the near term due to reduction in age of the Districts fleet of engines. In addition, establishing consistent make and model of apparatus will reduce parts inventory requirements and simplify routine preventative maintenance.	
Submitted by	Date
Firefighter Mike Matros, Fleet Maintenance Division Manager	4/24/17 (Revision)
Board of Fire Commissioners Action	Date

Capital Project Request and Estimate of Cost	
Project Title 594 22 64 14 Hose and Appliances	Priority High
Description This project provides for replacement of fire hose at it reaches its 15-year end of service life. Replacing 1/15th of the District's hose annually accomplishes this objective and minimizes the mean age of in-service fire hose. As the original purchase of fire hose was not done in a distributed manner, the amount of reserve hose will fluctuate as replacement is shifted to a regular schedule.	
Purpose & Justification Approximately 25% of the District has fire hydrants and the remaining 75% does not. Water supply operations involve hose lays between a fire hydrant and the fire, water tender shuttles, or a combination of these two water supply methods. Application of water for fire control requires the use of hoselines stretched from fire apparatus. The standard hose inventory carried on engines and water tenders is based on assessment of water supplies, needed fire flow, and tactical requirements based on these two factors. National Fire Protection Association Standard 1961 Standard on Fire Hose (2013) specifies that fire departments should consider a 10-year maximum service life for fire hose. The Washington Survey and Rating Bureau (WSRB) begins to increase deficiency points assigned for fire hose inventory as it ages and provides no credit for hose that exceeds 15 years of service. The first five years (2013-2017) of this project more than doubled the flow rate and distance over which that flow rate can be moved through hoselines. In addition, improvements in hose inventory contributed to the one class improvement of the WSRB Protection Class Rating in both the Town of Coupeville and unincorporated areas of the District. Now, six years into this ongoing project, the District has reduced the age of our fire hose inventory to within the maximum specified by the WSRB and now focuses on maintaining the maximum age and minimizing median age of the District's hose inventory through regularly scheduled replacement. See Appendix B-Hose Replacement Plan for additional detail on this project.	
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.	
CFAI Performance Indicator This project supports CFAI performance indicator 6E.2 Tools and equipment replacement is scheduled, budgeted, implemented, and is adequate to meet the agency's needs.	
Status of Specifications ☐ Not Completed ☒ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☒ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source

Project Title	
594 22 64 14 Hose and Appliances	
Proposed Source of Funding	
Debt	
General Capital Projects Fund	\$9,272
Grant Funding (Specify)	
Other	
Total	\$9,272
Estimated Change in Operational Expense	
This project will not impact operational expenses.	
Submitted by	Date
Lieutenant James Meek, Operations Division Manager	4/24/17 (Revision)
Board of Fire Commissioners Action	Date
Pending	

Capital Project Request and Estimate of Cost	
Project Title 594 22 64 31 Replace Hydraulic Vehicle Extrication Equipment	Priority High
Description This project would replace the District's existing hydraulic rescue tools (cutters, spreaders, rams, and combination tools, and power units) with a lighter weight system having greater cutting and lifting capacity.	
Purpose & Justification The District has a substantial number of hydraulic extrication tools. At present these tools are distributed between each of the District's stations (Rescue 51, Engine 53, Brush 53, and Brush 54. In 2018, the District's extrication equipment will be consolidated on one apparatus, Engine 53. While infrequently used, hydraulic spreaders, cutters, and rams are essential tools when presented with patients pinned in a vehicle or trapped under a heavy object. A number of the District's tools have exceeded their projected useful life and newer automotive technology has given rise to the need for tools with greater spreading and cutting strength. Over the last several years, the technology available in hydraulic rescue tools has changed considerably. In addition to gasoline engine powered hydraulic pumps providing power to tools through hydraulic lines, high performance tools with self-contained, lithium ion battery powered hydraulic pumps have become available. Prior to this purchase in 2020, the District will conduct a thorough assessment of the current technology available for hydraulic rescue tools to ensure that this project provides the greatest tactical capability within the specified fiscal constraints. Additional detail on this project is provided in Appendix C-Extrication Equipment Replacement Plan.	
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.	
CFAI Performance Indicator This project supports CFAI performance indicator 6E.2 Tools and equipment replacement is scheduled, budgeted, implemented, and is adequate to meet the agency's needs.	
Status of Specifications ☒ Not Completed ☐ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☒ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source

Project Title	
594 22 64 31 Replace Hydraulic Vehicle Extrication Equipment	
Proposed Source of Funding	
Debt	
General Capital Projects Fund	\$45,000
Grant Funding (Specify)	
Other	
Total	\$45,000
Estimated Change in Operational Expense	
This project would reduce ongoing operational expense for maintenance and repair by reducing the total tool inventory and age of tools in use.	
Submitted by	Date
Lieutenant James Meek, Operations Division Manager	4/24/17 (Revision)
Board of Fire Commissioners Action	Date
Pending	

Capital Project Request and Estimate of Cost											
Project Title 594 22 64 21 Self-Contained Breathing Apparatus & Cylinder Replacement	Priority High										
Description Replace all of the Districts self-contained breathing apparatus (SCBA) and SCBA cylinders and add two additional SCBA, four rescue air supplies, and 15 spare cylinders to the District's inventory.											
Purpose & Justification The District purchased new high-pressure SCBA in 2005. At that time, composite SCBA cylinders had a working life of 15 years (although new cylinders may be purchased with a 30-year working life). In addition, SCBA technology has changed dramatically in the last 10 years and this pace of change will likely continue. The SCBA manufacturer does not provide the ability to upgrade from significantly older models to current standards, necessitating schedule replacement. Unlike some other types of equipment, it is essential to maintain a single, common type of SCBA to simplify training requirements and maximize safety when working in a hazardous environment (e.g., common emergency procedures). This is a significant factor in the decision to replace all units at one time (rather than a phased in approach). Additional detail is provided in Appendix D-Self-Contained Breathing Apparatus Replacement Plan.											
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.											
CFAI Performance Indicator This project supports CFAI performance indicator 6F.3 safety equipment replacement is scheduled, budgeted, implemented, and adequate to meet the agency's needs.											
Status of Specifications ☒ Not Completed ☐ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☒ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source										
Proposed Source of Funding <table border="0" style="width: 100%;"> <tr> <td>Debt</td> <td></td> </tr> <tr> <td>General Capital Projects Fund</td> <td style="text-align: right;">\$299,500</td> </tr> <tr> <td>Grant Funding (Specify)</td> <td></td> </tr> <tr> <td>Other</td> <td></td> </tr> <tr> <td>Total</td> <td style="text-align: right;">\$299,500</td> </tr> </table>		Debt		General Capital Projects Fund	\$299,500	Grant Funding (Specify)		Other		Total	\$299,500
Debt											
General Capital Projects Fund	\$299,500										
Grant Funding (Specify)											
Other											
Total	\$299,500										

Project Title 594 22 64 21 Self-Contained Breathing Apparatus & Cylinder Replacement	
Estimated Change in Operational Expense	
Submitted by Firefighter Jim Huff, Respiratory Protection Program Manager	Date 4/24/17 (Revision)
Board of Fire Commissioners Action Pending	Date

2021 Capital Projects

Proposed Projects

The following capital projects are scheduled for 2021:

Apparatus

594 22 64 02 Replace Apparatus 1301 (S591)

594 22 64 16 Replace Apparatus 9501

Equipment

594 22 64 14 Hose and Appliances

Facilities

594 22 63 09 Station 51 Exhaust Removal System

594 22 63 10 Station 54 Exhaust Removal System

594 22 63 07 Replace Roof on Burn Building/Tower

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Capital Project Request and Estimate of Cost	
Project Title 2021 594 22 64 02 Replace Apparatus 1301 (\$591)	Priority Moderate
Description This compact automobile was purchased from Hertz Rental Car Sales as a general purpose staff vehicle. While equipped with lights and siren, it is not typically used as an emergency response vehicle. This project would replace this 10 year old vehicle with a newer (used) compact automobile.	
Purpose & Justification S591 provides transportation for District members attending training and performing other non-emergency duties. In addition, it serves as a backup to staff emergency vehicles during maintenance and repair. Purchase of a used vehicle (such as from a rental car company) provides a lower cost reliable alternative to purchasing a new vehicle under state contract and is a viable option for non-emergency vehicles. While this vehicle is scheduled for replacement after 10 years, absent increased maintenance cost, replacement may be based on mileage (200,000 miles). As such, this project may possibly be deferred until 2024 (2017 mileage 82,500 and annual mileage of 15,000).	
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle.	
CFAI Performance Indicator This project supports the following two CFAI performance indicators: 6C.1 (Critical Criteria) Apparatus types are appropriate for the functions served (e.g., operations, staff support services, specialized services, and administration). 6C.2 A current replacement schedule exists for all apparatus and support vehicles based on current federal and state/provincial recognized standards, vehicle condition, department needs, and requirements.	
Status of Specifications ☒ Not Completed ☐ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☐ Competitive Bid ☐ Vendor List Procedure ☒ Sole Source <i>Purchase of a used vehicle meets the special market conditions for exemption from competitive bid per RCW 39.04.280.</i>

Project Title	
2021 594 22 64 02 Replace Apparatus 1301 (\$591)	
Proposed Source of Funding	
Debt	
General Capital Projects Fund	\$17,500
Grant Funding (Specify)	
Other (Estimated Surplus Value of Apparatus 1301)	-\$2,000
Total	\$15,500
Estimated Change in Operational Expense	
This project will not result in significant change in operational expense.	
Submitted by	Date
Firefighter/Mechanic Mike Matros, Fleet Division Manager	4/24/17 (Revision)
Board of Fire Commissioners Action	Date
Pending	

Capital Project Request and Estimate of Cost											
Project Title 594 22 64 16 Replace Apparatus 9501	Priority High										
Description Purchase of a utility truck and installation of related equipment (e.g., warning lights, radio, hydraulic lift gate) for use as the District's fleet maintenance and service vehicle. This apparatus would be constructed on the same platform as the District's Type 6 Engines, a diesel powered, four wheel drive chassis with a GVWR of 19,500 lbs (e.g., Dodge Tradesman 5500).											
Purpose & Justification Apparatus 9501 (initially in service as a Rescue/Type 6 Engine) was repurposed to serve as the fleet maintenance vehicle in 2013 reached its anticipated end useful life of 15 years in 2010. Effective preventative maintenance has allowed extension of its service life with anticipated replacement in 2021.. Use of the same platform as the District's Type 6 Engines minimizes parts inventory requirements and simplifies preventative maintenance.											
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.											
CFAI Performance Indicator This project supports the following two CFAI performance indicators: 6C.1 (Critical Criteria) Apparatus types are appropriate for the functions served (e.g., operations, staff support services, specialized services, and administration). 6C.2 A current replacement schedule exists for all apparatus and support vehicles based on current federal and state/provincial recognized standards, vehicle condition, department needs, and requirements.											
Status of Specifications ☒ Not Completed ☐ Completed <i>Specifications will be generated from the State Contract for Vehicles ¾-1 Ton Trucks</i>	Procurement Process ☒ State Contract ☐ Other Joint Contract ☐ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source										
Proposed Source of Funding <table> <tr> <td>Debt</td> <td></td> </tr> <tr> <td>General Capital Projects Fund</td> <td>\$120,000</td> </tr> <tr> <td>Grant Funding (Specify)</td> <td></td> </tr> <tr> <td>Other</td> <td></td> </tr> <tr> <td>Total</td> <td>\$120,000</td> </tr> </table>		Debt		General Capital Projects Fund	\$120,000	Grant Funding (Specify)		Other		Total	\$120,000
Debt											
General Capital Projects Fund	\$120,000										
Grant Funding (Specify)											
Other											
Total	\$120,000										

Project Title 594 22 64 16 Replace Apparatus 9501	
Estimated Change in Operational Expense This project will maintain operational expense by increasing fleet reliability (reduced future repair cost).	
Submitted by Firefighter/Mechanic Mike Matros, Fleet Division Manager	Date 4/24/17 (Revision)
Board of Fire Commissioners Action Pending	Date

Capital Project Request and Estimate of Cost	
Project Title 2021 594 22 64 14 Hose and Appliances	Priority High
Description This project provides for replacement of fire hose at it reaches its 15-year end of service life. Replacing 1/15th of the District's hose annually accomplishes this objective and minimizes the mean age of in-service fire hose. As the original purchase of fire hose was not done in a distributed manner, the amount of reserve hose will fluctuate as replacement is shifted to a regular schedule.	
Purpose & Justification Approximately 25% of the District has fire hydrants and the remaining 75% does not. Water supply operations involve hose lays between a fire hydrant and the fire, water tender shuttles, or a combination of these two water supply methods. Application of water for fire control requires the use of hoselines stretched from fire apparatus. The standard hose inventory carried on engines and water tenders is based on assessment of water supplies, needed fire flow, and tactical requirements based on these two factors. National Fire Protection Association Standard 1961 Standard on Fire Hose (2013) specifies that fire departments should consider a 10-year maximum service life for fire hose. The Washington Survey and Rating Bureau (WSRB) begins to increase deficiency points assigned for fire hose inventory as it ages and provides no credit for hose that exceeds 15 years of service. The first five years (2013-2017) of this project more than doubled the flow rate and distance over which that flow rate can be moved through hoselines. In addition, improvements in hose inventory contributed to the one class improvement of the WSRB Protection Class Rating in both the Town of Coupeville and unincorporated areas of the District. Now, six years into this ongoing project, the District has reduced the age of our fire hose inventory to within the maximum specified by the WSRB and now focuses on maintaining the maximum age and minimizing median age of the District's hose inventory through regularly scheduled replacement. See Appendix B-Hose Replacement Plan for additional detail on this project.	
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.	
CFAI Performance Indicator This project supports CFAI performance indicator 6E.2 Tools and equipment replacement is scheduled, budgeted, implemented, and is adequate to meet the agency's needs.	
Status of Specifications ☐ Not Completed ☒ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☒ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source

Project Title	
2021 594 22 64 14 Hose and Appliances	
Proposed Source of Funding	
Debt	
General Capital Projects Fund	\$9,441
Grant Funding (Specify)	
Other	
Total	\$9,441
Estimated Change in Operational Expense	
This project will not impact operational expenses.	
Submitted by	Date
Lieutenant James Meek, Operations Division Manager	4/24/17 (Revision)
Board of Fire Commissioners Action	Date
Pending	

Capital Project Request and Estimate of Cost	
Project Title 594 22 63 09 Station 51 Exhaust Removal System	Priority
Description This project involves purchase and installation of a diesel exhaust extraction system at Station 51. This system would involve exhaust capture at each vehicle in the apparatus room, as well as hose, ductwork, and blowers to remove diesel exhaust and particulates from the interior of the station. This system would minimize exhaust exposure in the apparatus room and would prevent contamination of living quarters. Hose and attachments connected to fire apparatus would automatically disconnect as apparatus leaves the station, minimizing impact on turnout time. Ease of reconnection as apparatus reenters the station minimizes potential for release of toxic products within the apparatus room on return.	
Purpose & Justification The exhaust from diesel engines contains a mixture of gases and very small particles that can create a health hazard when not properly controlled. Diesel particulate matter is a component of diesel exhaust that includes soot particles made up primarily of carbon, ash, metallic abrasion particles, sulfates and silicates. Diesel soot particles have a solid core consisting of elemental carbon, with other substances attached to the surface, including organic carbon compounds known as aromatic hydrocarbons. Short term exposure to high concentrations of DE/DPM can cause headache, dizziness, and irritation of the eye, nose and throat. Prolonged DE/DPM exposure can increase the risk of cardiovascular, cardiopulmonary and respiratory disease and lung cancer. In June, 2012, the International Agency for Cancer Research (IARC) classified DE (including DPM) as a known human carcinogen (Group 1) (OSHA, 2017). In addition, recognizing the hazards presented by diesel exhaust and particulates the Washington Department of Labor and Industries (L&I) Safety Standards for Firefighters, WAC 296-305, requires that all new fire stations shall be designed and constructed to conform to ACGIH ventilation recommended criteria for exhaust of internal combustion engines (WAC 296-305-06511). When this station was constructed in 2005, there was no code requirement for installation of a vehicle exhaust extraction system beyond normal ventilation. While not required by code (unless the building is substantively renovated), exposure to diesel exhaust and contamination of building surfaces presents a significant health hazard to the District's members.	
Strategic Goal & Initiative Maintain adequate infrastructure to support operations. [Resources] and related initiatives to maintain District facilities to minimize operational cost over their lifecycle	
CFAI Performance Indicator This project supports CFAI performance indicator 6B.3 facilities comply with federal, state/provincial, and local codes and regulations at the time of construction, required upgrades for safety are identified, and where resources allow, addressed. For those items that warrant further attention, a plan for implementation is identified in the agency's long term capital improvement plan (i.e., fire alarm systems, sprinkler system, seismic, vehicle exhaust system, asbestos abatement, etc.).	

Project Title 594 22 63 09 Station 51 Exhaust Removal System	
Status of Specifications ☒ Not Completed ☐ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☒ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source
Proposed Source of Funding Debt General Capital Projects Fund \$80,500 Grant Funding (Specify) Other	
Total 80,500	
Estimated Change in Operational Expense This project will result in an estimated \$1,000 increase in operational expense due to the need to maintain the diesel exhaust extraction system.	
Submitted by Lieutenant Derik Vrable, Facilities Division Manager	Date 4/24/17
Board of Fire Commissioners Action	Date

Capital Project Request and Estimate of Cost	
Project Title 594 22 63 10 Station 54 Exhaust Removal System	Priority
Description This project involves purchase and installation of a diesel exhaust extraction system at Station 51. This system would involve exhaust capture at each vehicle in the apparatus room, as well as hose, ductwork, and blowers to remove diesel exhaust and particulates from the interior of the station. This system would minimize exhaust exposure in the apparatus room and would prevent contamination of living quarters. Hose and attachments connected to fire apparatus would automatically disconnect as apparatus leaves the station, minimizing impact on turnout time. Ease of reconnection as apparatus reenters the station minimizes potential for release of toxic products within the apparatus room on return.	
Purpose & Justification The exhaust from diesel engines contains a mixture of gases and very small particles that can create a health hazard when not properly controlled. Diesel particulate matter is a component of diesel exhaust that includes soot particles made up primarily of carbon, ash, metallic abrasion particles, sulfates and silicates. Diesel soot particles have a solid core consisting of elemental carbon, with other substances attached to the surface, including organic carbon compounds known as aromatic hydrocarbons. Short term exposure to high concentrations of DE/DPM can cause headache, dizziness, and irritation of the eye, nose and throat. Prolonged DE/DPM exposure can increase the risk of cardiovascular, cardiopulmonary and respiratory disease and lung cancer. In June, 2012, the International Agency for Cancer Research (IARC) classified DE (including DPM) as a known human carcinogen (Group 1) (OSHA, 2017). In addition, recognizing the hazards presented by diesel exhaust and particulates the Washington Department of Labor and Industries (L&I) Safety Standards for Firefighters, WAC 296-305, requires that all new fire stations shall be designed and constructed to conform to ACGIH ventilation recommended criteria for exhaust of internal combustion engines (WAC 296-305-06511). When this station was constructed in 1999, there was no code requirement for installation of a vehicle exhaust extraction system beyond normal ventilation. While not required by code (unless the building is substantively renovated), exposure to diesel exhaust and contamination of building surfaces presents a significant health hazard to the District's members.	
Strategic Goal & Initiative Maintain adequate infrastructure to support operations. [Resources] and related initiatives to maintain District facilities to minimize operational cost over their lifecycle	
CFAI Performance Indicator This project supports CFAI performance indicator 6B.3 facilities comply with federal, state/provincial, and local codes and regulations at the time of construction, required upgrades for safety are identified, and where resources allow, addressed. For those items that warrant further attention, a plan for implementation is identified in the agency's long term capital improvement plan (i.e., fire alarm systems, sprinkler system, seismic, vehicle exhaust system, asbestos abatement, etc.).	

Project Title 594 22 63 10 Station 54 Exhaust Removal System	
Status of Specifications ☒ Not Completed ☐ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☒ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source
Proposed Source of Funding Debt General Capital Projects Fund \$80,500 Grant Funding (Specify) Other Total 80,500	
Estimated Change in Operational Expense This project will result in an estimated \$1,000 increase in operational expense due to the need to maintain the diesel exhaust extraction system.	
Submitted by Lieutenant Derik Vrable, Facilities Division Manager	Date 4/24/17
Board of Fire Commissioners Action	Date

Capital Project Request and Estimate of Cost											
Project Title 594 22 63 07 Replace Roof on Burn Building/Tower	Priority Moderate										
Description This project would replace the asphalt shingle roof covering and roof decking (as needed) on the District's Burn Building/Training Tower.											
Purpose & Justification Constructed in 1999, CWIFR's Burn Building/Tower has seen extensive use resulting in anticipated wear and tear, requiring replacement of the roof covering and likely some areas of roof decking. Assessment will be updated on a regular basis as this building must be inspected by a licensed engineer on a three year interval.											
Strategic Goal and Initiative This project supports the District's strategic goal to maintain adequate infrastructure to support operations and the related initiative to maintain District facilities to minimize operational cost over their lifecycle.											
CFAI Performance Indicator This project supports CFAI performance indicator 6B.2 buildings and outbuildings are clean and in good repair, and the surrounding grounds are well kept. Maintenance is conducted in a systematic and planned. Manner.											
Status of Specifications ☒ Not Completed ☐ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☒ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source										
Proposed Source of Funding <table border="0" style="width: 100%;"> <tr> <td>Debt</td> <td></td> </tr> <tr> <td>General Capital Projects Fund</td> <td style="text-align: right;">\$6,000</td> </tr> <tr> <td>Grant Funding (Specify)</td> <td></td> </tr> <tr> <td>Other</td> <td></td> </tr> <tr> <td>Total</td> <td style="text-align: right;">\$6,000</td> </tr> </table>		Debt		General Capital Projects Fund	\$6,000	Grant Funding (Specify)		Other		Total	\$6,000
Debt											
General Capital Projects Fund	\$6,000										
Grant Funding (Specify)											
Other											
Total	\$6,000										
Estimated Change in Operational Expense This project will have no impact on operational expense.											
Submitted by Lieutenant Derik Vrable, Facilities Division Manager	Date 4/24/17 (Revision)										
Board of Fire Commissioners Action Pending	Date										

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2022 Capital Projects

Proposed Projects

The following capital projects are scheduled for 2022:

Equipment

594 22 64 14 Hose and Appliances

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Capital Project Request and Estimate of Cost	
Project Title 594 22 64 14 Hose and Appliances	Priority High
Description This project provides for replacement of fire hose at it reaches its 15-year end of service life. Replacing 1/15th of the District's hose annually accomplishes this objective and minimizes the mean age of in-service fire hose. As the original purchase of fire hose was not done in a distributed manner, the amount of reserve hose will fluctuate as replacement is shifted to a regular schedule.	
Purpose & Justification Approximately 25% of the District has fire hydrants and the remaining 75% does not. Water supply operations involve hose lays between a fire hydrant and the fire, water tender shuttles, or a combination of these two water supply methods. Application of water for fire control requires the use of hoselines stretched from fire apparatus. The standard hose inventory carried on engines and water tenders is based on assessment of water supplies, needed fire flow, and tactical requirements based on these two factors. National Fire Protection Association Standard 1961 Standard on Fire Hose (2013) specifies that fire departments should consider a 10-year maximum service life for fire hose. The Washington Survey and Rating Bureau (WSRB) begins to increase deficiency points assigned for fire hose inventory as it ages and provides no credit for hose that exceeds 15 years of service. The first five years (2013-2017) of this project more than doubled the flow rate and distance over which that flow rate can be moved through hoselines. In addition, improvements in hose inventory contributed to the one class improvement of the WSRB Protection Class Rating in both the Town of Coupeville and unincorporated areas of the District. Now, six years into this ongoing project, the District has reduced the age of our fire hose inventory to within the maximum specified by the WSRB and now focuses on maintaining the maximum age and minimizing median age of the District's hose inventory through regularly scheduled replacement. See Appendix B-Hose Replacement Plan for additional detail on this project.	
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.	
CFAI Performance Indicator This project supports CFAI performance indicator 6E.2 Tools and equipment replacement is scheduled, budgeted, implemented, and is adequate to meet the agency's needs.	
Status of Specifications ☐ Not Completed ☒ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☒ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source

Proposed Source of Funding	
Debt	
General Capital Projects Fund	\$9,552
Grant Funding (Specify)	
Other	
Total	\$9,552
Estimated Change in Operational Expense	
This project will not impact operational expenses.	
Submitted by	Date
Lieutenant James Meek, Operations Division Manager	4/24/17 (Revision)
Board of Fire Commissioners Action	Date
Pending	

2023 Capital Projects

Proposed Projects

The following capital projects are scheduled for 2023.

Equipment

594 22 64 14 Hose and Appliances

Technology Infrastructure

594 22 64 11 Server Replacement

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Capital Project Request and Estimate of Cost	
Project Title 2023 594 22 64 14 Hose and Appliances	Priority High
Description This project provides for replacement of fire hose at it reaches its 15-year end of service life. Replacing 1/15th of the District's hose annually accomplishes this objective and minimizes the mean age of in-service fire hose. As the original purchase of fire hose was not done in a distributed manner, the amount of reserve hose will fluctuate as replacement is shifted to a regular schedule.	
Purpose & Justification Approximately 25% of the District has fire hydrants and the remaining 75% does not. Water supply operations involve hose lays between a fire hydrant and the fire, water tender shuttles, or a combination of these two water supply methods. Application of water for fire control requires the use of hoselines stretched from fire apparatus. The standard hose inventory carried on engines and water tenders is based on assessment of water supplies, needed fire flow, and tactical requirements based on these two factors. National Fire Protection Association Standard 1961 Standard on Fire Hose (2013) specifies that fire departments should consider a 10-year maximum service life for fire hose. The Washington Survey and Rating Bureau (WSRB) begins to increase deficiency points assigned for fire hose inventory as it ages and provides no credit for hose that exceeds 15 years of service. The first five years (2013-2017) of this project more than doubled the flow rate and distance over which that flow rate can be moved through hoselines. In addition, improvements in hose inventory contributed to the one class improvement of the WSRB Protection Class Rating in both the Town of Coupeville and unincorporated areas of the District. Now, six years into this ongoing project, the District has reduced the age of our fire hose inventory to within the maximum specified by the WSRB and now focuses on maintaining the maximum age and minimizing median age of the District's hose inventory through regularly scheduled replacement. See Appendix B-Hose Replacement Plan for additional detail on this project.	
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.	
CFAI Performance Indicator This project supports CFAI performance indicator 6E.2 Tools and equipment replacement is scheduled, budgeted, implemented, and is adequate to meet the agency's needs.	
Status of Specifications ☐ Not Completed ☒ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☒ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source

Proposed Source of Funding	
Debt	
General Capital Projects Fund	\$9,696
Grant Funding (Specify)	
Other	
Total	\$9,696
Estimated Change in Operational Expense	
This project will not impact operational expenses.	
Submitted by	Date
Lieutenant James Meek, Operations Division Manager	4/24/17 (Revision)
Board of Fire Commissioners Action	Date
Pending	

Capital Project Request and Estimate of Cost											
Project Title 594 22 64 11 Replace Computer Server	Priority High										
Description Purchase a replacement for the District's computer server.											
Description Purchase a replacement for the District's main computer server and remote backup server.											
Purpose & Justification The existing servers were purchased in 2018 and will reach its anticipated end of useful life in 2023.											
Strategic Goal and Initiative This project supports the District's strategic goal to maintain adequate infrastructure to support operations [Resources] and related initiative to maintain the District's technological infrastructure to maximize effectiveness, efficiency, and minimize cost over its lifecycle.											
CFAI Performance Indicator This project supports CFAI performance indicator 9C.3 Technological resources (e.g., telecommunications equipment, computer systems, general business software) and the information management system is appropriate to support the agency's need. Access is available to technical support personnel with expertise in the systems deployed by the agency. Documentation and analysis of data (e.g., formative, process, impact, and outcome measurement are accessible to the agency.											
Status of Specifications ☒ Not Completed ☐ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☒ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source										
Proposed Source of Funding <table> <tr> <td>Debt</td> <td></td> </tr> <tr> <td>General Capital Projects Fund</td> <td>\$25,000</td> </tr> <tr> <td>Grant Funding (Specify)</td> <td></td> </tr> <tr> <td>Other</td> <td></td> </tr> <tr> <td>Total</td> <td>\$25,000</td> </tr> </table>		Debt		General Capital Projects Fund	\$25,000	Grant Funding (Specify)		Other		Total	\$25,000
Debt											
General Capital Projects Fund	\$25,000										
Grant Funding (Specify)											
Other											
Total	\$25,000										
Estimated Change in Operational Expense This project will slightly increase operations expense for maintenance and fuel for one additional staff vehicle.											
Submitted by Chief Edward E. Hartin, MS, EFO, FIFireE, CFO	Date 4/24/17 (Revision)										
Board of Fire Commissioners Action Pending	Date										

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2024 Capital Projects

Proposed Projects

The following capital projects are scheduled for 2024:

Apparatus

594 22 64 12 Replace Apparatus 1402 (C502)

Equipment

594 22 64 14 Hose and Appliances

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Capital Project Request and Estimate of Cost											
Project Title 594 22 64 12 Replace Apparatus 1401 (C502)	Priority High										
Description Replace Apparatus 1401 with purchase of a four-wheel drive, mid-sized crew cab pickup or compact sport utility vehicle (SUV) for use as a staff vehicle and installation of related equipment (radios, warning lights).											
Purpose & Justification Purchased in 2014, Apparatus 1401 will reach its projected end of useful life in 2024.											
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.											
CFAI Performance Indicator This project supports the following two CFAI performance indicators: 6C.1 (Critical Criteria) Apparatus types are appropriate for the functions served (e.g., operations, staff support services, specialized services, and administration). 6C.2 A current replacement schedule exists for all apparatus and support vehicles based on current federal and state/provincial recognized standards, vehicle condition, department needs, and requirements.											
Status of Specifications ☒ Not Completed ☐ Completed	Procurement Process ☒ State Contract ☐ Other Joint Contract ☐ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source										
Proposed Source of Funding <table> <tr> <td>Debt</td> <td></td> </tr> <tr> <td>General Capital Projects Fund</td> <td>\$46,500</td> </tr> <tr> <td>Grant Funding (Specify)</td> <td></td> </tr> <tr> <td>Other</td> <td></td> </tr> <tr> <td>Total</td> <td>\$46,500</td> </tr> </table>		Debt		General Capital Projects Fund	\$46,500	Grant Funding (Specify)		Other		Total	\$46,500
Debt											
General Capital Projects Fund	\$46,500										
Grant Funding (Specify)											
Other											
Total	\$46,500										

Project Title 594 22 64 12 Replace Apparatus 1401 (C502)	
Estimated Change in Operational Expense This project will maintain operational expense by increasing fleet reliability (reduced future repair cost).	
Submitted by Firefighter/Mechanic Mike Matros, Fleet Division Manager	Date 4/24/17 (Revision)
Board of Fire Commissioners Action Pending	Date

Capital Project Request and Estimate of Cost	
Project Title 2024 594 22 64 14 Hose and Appliances	Priority High
Description This project provides for replacement of fire hose at it reaches its 15-year end of service life. Replacing 1/15th of the District's hose annually accomplishes this objective and minimizes the mean age of in-service fire hose. As the original purchase of fire hose was not done in a distributed manner, the amount of reserve hose will fluctuate as replacement is shifted to a regular schedule.	
Purpose & Justification Approximately 25% of the District has fire hydrants and the remaining 75% does not. Water supply operations involve hose lays between a fire hydrant and the fire, water tender shuttles, or a combination of these two water supply methods. Application of water for fire control requires the use of hoselines stretched from fire apparatus. The standard hose inventory carried on engines and water tenders is based on assessment of water supplies, needed fire flow, and tactical requirements based on these two factors. National Fire Protection Association Standard 1961 Standard on Fire Hose (2013) specifies that fire departments should consider a 10-year maximum service life for fire hose. The Washington Survey and Rating Bureau (WSRB) begins to increase deficiency points assigned for fire hose inventory as it ages and provides no credit for hose that exceeds 15 years of service. The first five years (2013-2017) of this project more than doubled the flow rate and distance over which that flow rate can be moved through hoselines. In addition, improvements in hose inventory contributed to the one class improvement of the WSRB Protection Class Rating in both the Town of Coupeville and unincorporated areas of the District. Now, six years into this ongoing project, the District has reduced the age of our fire hose inventory to within the maximum specified by the WSRB and now focuses on maintaining the maximum age and minimizing median age of the District's hose inventory through regularly scheduled replacement. See Appendix B-Hose Replacement Plan for additional detail on this project.	
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.	
CFAI Performance Indicator This project supports CFAI performance indicator 6E.2 Tools and equipment replacement is scheduled, budgeted, implemented, and is adequate to meet the agency's needs.	
Status of Specifications ☐ Not Completed ☒ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☒ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source

Project Title	
2024 594 22 64 14 Hose and Appliances	
Proposed Source of Funding	
Debt	
General Capital Projects Fund	\$9,841
Grant Funding (Specify)	
Other	
Total	\$9,841
Estimated Change in Operational Expense	
This project will not impact operational expenses.	
Submitted by	Date
Lieutenant James Meek, Operations Division Manager	4/24/17 (Revision)
Board of Fire Commissioners Action	Date
Pending	

2025 Capital Projects

Proposed Projects

The following capital projects are scheduled for 2024:

Equipment

594 22 64 14 Hose and Appliances

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Capital Project Request and Estimate of Cost	
Project Title 594 22 64 14 Hose and Appliances	Priority High
Description This project provides for replacement of fire hose at it reaches its 15-year end of service life. Replacing 1/15th of the District's hose annually accomplishes this objective and minimizes the mean age of in-service fire hose. As the original purchase of fire hose was not done in a distributed manner, the amount of reserve hose will fluctuate as replacement is shifted to a regular schedule.	
Purpose & Justification Approximately 25% of the District has fire hydrants and the remaining 75% does not. Water supply operations involve hose lays between a fire hydrant and the fire, water tender shuttles, or a combination of these two water supply methods. Application of water for fire control requires the use of hoselines stretched from fire apparatus. The standard hose inventory carried on engines and water tenders is based on assessment of water supplies, needed fire flow, and tactical requirements based on these two factors. National Fire Protection Association Standard 1961 Standard on Fire Hose (2013) specifies that fire departments should consider a 10-year maximum service life for fire hose. The Washington Survey and Rating Bureau (WSRB) begins to increase deficiency points assigned for fire hose inventory as it ages and provides no credit for hose that exceeds 15 years of service. The first five years (2013-2017) of this project more than doubled the flow rate and distance over which that flow rate can be moved through hoselines. In addition, improvements in hose inventory contributed to the one class improvement of the WSRB Protection Class Rating in both the Town of Coupeville and unincorporated areas of the District. Now, six years into this ongoing project, the District has reduced the age of our fire hose inventory to within the maximum specified by the WSRB and now focuses on maintaining the maximum age and minimizing median age of the District's hose inventory through regularly scheduled replacement. See Appendix B-Hose Replacement Plan for additional detail on this project.	
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.	
CFAI Performance Indicator This project supports CFAI performance indicator 6E.2 Tools and equipment replacement is scheduled, budgeted, implemented, and is adequate to meet the agency's needs.	

Project Title 594 22 64 14 Hose and Appliances	
Status of Specifications ☐ Not Completed ☒ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☒ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source
Proposed Source of Funding Debt General Capital Projects Fund \$9,989 Grant Funding (Specify) Other Total \$9,989	
Estimated Change in Operational Expense This project will not impact operational expenses.	
Submitted by Lieutenant James Meek, Operations Division Manager	Date 4/24/17 (Revision)
Board of Fire Commissioners Action Pending	Date

2026 Capital Projects

Proposed Projects

The following capital projects are scheduled for 2026.

Equipment

594 22 64 14 Hose and Appliances

594 22 64 05 Replace/Upgrade Automatic External Defibrillators (AED)

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Capital Project Request and Estimate of Cost	
Project Title 594 22 64 14 Hose and Appliances	Priority High
Description This project provides for replacement of fire hose at it reaches its 15-year end of service life. Replacing 1/15th of the District's hose annually accomplishes this objective and minimizes the mean age of in-service fire hose. As the original purchase of fire hose was not done in a distributed manner, the amount of reserve hose will fluctuate as replacement is shifted to a regular schedule.	
Purpose & Justification Approximately 25% of the District has fire hydrants and the remaining 75% does not. Water supply operations involve hose lays between a fire hydrant and the fire, water tender shuttles, or a combination of these two water supply methods. Application of water for fire control requires the use of hoselines stretched from fire apparatus. The standard hose inventory carried on engines and water tenders is based on assessment of water supplies, needed fire flow, and tactical requirements based on these two factors. National Fire Protection Association Standard 1961 Standard on Fire Hose (2013) specifies that fire departments should consider a 10-year maximum service life for fire hose. The Washington Survey and Rating Bureau (WSRB) begins to increase deficiency points assigned for fire hose inventory as it ages and provides no credit for hose that exceeds 15 years of service. The first five years (2013-2017) of this project more than doubled the flow rate and distance over which that flow rate can be moved through hoselines. In addition, improvements in hose inventory contributed to the one class improvement of the WSRB Protection Class Rating in both the Town of Coupeville and unincorporated areas of the District. Now, six years into this ongoing project, the District has reduced the age of our fire hose inventory to within the maximum specified by the WSRB and now focuses on maintaining the maximum age and minimizing median age of the District's hose inventory through regularly scheduled replacement. See Appendix B-Hose Replacement Plan for additional detail on this project.	
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.	
CFAI Performance Indicator This project supports CFAI performance indicator 6E.2 Tools and equipment replacement is scheduled, budgeted, implemented, and is adequate to meet the agency's needs.	
Status of Specifications ☐ Not Completed ☒ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☒ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source

Project Title	
594 22 64 14 Hose and Appliances	
Proposed Source of Funding	
Debt	
General Capital Projects Fund	\$10,138
Grant Funding (Specify)	
Other	
Total	\$10,138
Estimated Change in Operational Expense	
This project will not impact operational expenses.	
Submitted by	Date
Lieutenant James Meek, Operations Division Manager	4/24/17 (Revision)
Board of Fire Commissioners Action	Date
Pending	

Capital Project Request and Estimate of Cost											
Project Title 594 22 64 05 Replace/Upgrade Automatic External Defibrillators (AED)	Priority Moderate										
Description Replacement of eight LifePak 1000 Automatic External Defibrillators (AED) carried on the District's licensed aid vehicles. An AED is a lightweight, portable device that delivers an electric shock through the chest to the heart. The shock can potentially stop an irregular heart beat (arrhythmia) and allow a normal rhythm to resume following sudden cardiac arrest (SCA).											
Purpose & Justification In 2019, the District purchased eight LifePak 1000 AEDs. This equipment has a projected useful life of approximately eight years (Department of the Army, 1992; American Hospital Association, 2013) and should be replaced in 2027 to maintain the equipment required by on licensed aid vehicles (WAC 246-976-300).											
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.											
CFAI Performance Indicator This project supports CFAI performance indicator 6E.2 Tools and equipment replacement is scheduled, budgeted, implemented, and is adequate to meet the agency's needs.											
Status of Specifications ☐ Not Completed ☒ Completed	Procurement Process ☒ State Contract ☐ Other Joint Contract ☐ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source										
Proposed Source of Funding <table border="0" style="width: 100%;"> <tr> <td>Debt</td> <td></td> </tr> <tr> <td>General Capital Projects Fund</td> <td style="text-align: right;">\$33,261</td> </tr> <tr> <td>Grant Funding (Specify)</td> <td></td> </tr> <tr> <td>Other</td> <td></td> </tr> <tr> <td>Total</td> <td style="text-align: right;">\$33,261</td> </tr> </table>		Debt		General Capital Projects Fund	\$33,261	Grant Funding (Specify)		Other		Total	\$33,261
Debt											
General Capital Projects Fund	\$33,261										
Grant Funding (Specify)											
Other											
Total	\$33,261										

Project Title 594 22 64 05 Replace/Upgrade Automatic External Defibrillators (AED)	
Estimated Change in Operational Expense No change in operational expense is anticipated.	
Submitted by Firefighter Alex Majestic, EMS Program Manager	Date 4/24/17 (Revision)
Board of Fire Commissioners Action Pending	Date

2027 Capital Projects

Proposed Projects

The following capital projects are scheduled for 2027:

Equipment

594 22 64 14 Hose and Appliances

594 22 64 19 Replace Thermal Imagers

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Capital Project Request and Estimate of Cost	
Project Title 594 22 64 14 Hose and Appliances	Priority High
Description This project provides for replacement of fire hose at it reaches its 15-year end of service life. Replacing 1/15th of the District's hose annually accomplishes this objective and minimizes the mean age of in-service fire hose. As the original purchase of fire hose was not done in a distributed manner, the amount of reserve hose will fluctuate as replacement is shifted to a regular schedule.	
Purpose & Justification Approximately 25% of the District has fire hydrants and the remaining 75% does not. Water supply operations involve hose lays between a fire hydrant and the fire, water tender shuttles, or a combination of these two water supply methods. Application of water for fire control requires the use of hoselines stretched from fire apparatus. The standard hose inventory carried on engines and water tenders is based on assessment of water supplies, needed fire flow, and tactical requirements based on these two factors. National Fire Protection Association Standard 1961 Standard on Fire Hose (2013) specifies that fire departments should consider a 10-year maximum service life for fire hose. The Washington Survey and Rating Bureau (WSRB) begins to increase deficiency points assigned for fire hose inventory as it ages and provides no credit for hose that exceeds 15 years of service. The first five years (2013-2017) of this project more than doubled the flow rate and distance over which that flow rate can be moved through hoselines. In addition, improvements in hose inventory contributed to the one class improvement of the WSRB Protection Class Rating in both the Town of Coupeville and unincorporated areas of the District. Now, six years into this ongoing project, the District has reduced the age of our fire hose inventory to within the maximum specified by the WSRB and now focuses on maintaining the maximum age and minimizing median age of the District's hose inventory through regularly scheduled replacement. See Appendix B-Hose Replacement Plan for additional detail on this project.	
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.	
CFAI Performance Indicator This project supports CFAI performance indicator 6E.2 Tools and equipment replacement is scheduled, budgeted, implemented, and is adequate to meet the agency's needs.	
Status of Specifications ☐ Not Completed ☒ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☒ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source

Project Title	
594 22 64 14 Hose and Appliances	
Proposed Source of Funding	
Debt	
General Capital Projects Fund	\$10,291
Grant Funding (Specify)	
Other	
Total	\$10,291
Estimated Change in Operational Expense	
This project will not impact operational expenses.	
Submitted by	Date
Lieutenant James Meek, Operations Division Manager	4/24/17 (Revision)
Board of Fire Commissioners Action	Date
Pending	

Capital Project Request and Estimate of Cost											
Project Title 594 22 64 19 Replace Thermal Imagers	Priority Moderate										
Description This project would replace/upgrade the District's three thermal imagers placing one unit on each of the first line engines (51, 53, and 54).											
Purpose & Justification The District purchased its current thermal imagers in 2015. The thermal imagers will be reaching their end of projected useful life in 2015. In addition, thermal imaging technology has evolved considerably since 2003, significantly enhancing the capability of these devices. Thermal imagers are an essential tool in assessing fire conditions and performing search in a visually obscured environment.											
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.											
CFAI Performance Indicator This project supports CFAI performance indicator 6E.2 Tools and equipment replacement is scheduled, budgeted, implemented, and is adequate to meet the agency's needs.											
Status of Specifications ☐ Not Completed ☒ Completed	Procurement Process ☒ State Contract ☐ Other Joint Contract ☐ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source										
Proposed Source of Funding <table border="0" style="width: 100%;"> <tr> <td>Debt</td> <td></td> </tr> <tr> <td>General Capital Projects Fund</td> <td style="text-align: right;">\$36,000</td> </tr> <tr> <td>Grant Funding (Specify)</td> <td></td> </tr> <tr> <td>Other</td> <td></td> </tr> <tr> <td>Total</td> <td style="text-align: right;">\$36,000</td> </tr> </table>		Debt		General Capital Projects Fund	\$36,000	Grant Funding (Specify)		Other		Total	\$36,000
Debt											
General Capital Projects Fund	\$36,000										
Grant Funding (Specify)											
Other											
Total	\$36,000										
Estimated Change in Operational Expense No change in operational expense is anticipated.											
Submitted by Lieutenant James Meek, Operations Division Manager	Date 4/24/17 (Revision)										
Board of Fire Commissioners Action Pending	Date										

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2028 Capital Projects

Proposed Projects

The following capital projects are scheduled for 2028:

Apparatus

594 22 64 36 Replace Apparatus 1201 (R53)

Equipment

594 22 64 14 Hose and Appliances

Technology Infrastructure

594 22 64 11 Server Replacement

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Capital Project Request and Estimate of Cost											
Project Title 594 22 64 36 Replace Apparatus 1201 (R53)	Priority										
Description This project involves purchase of a ¾ ton, diesel powered four wheel drive pickup truck. The vehicle purchased would be used as a Command Vehicle and an existing command vehicle (Apparatus 1701) will be reassigned as the tow vehicle.											
Purpose & Justification Purchase of a ¾ ton, crew cab, diesel pickup, would provide a suitable tow vehicle for the marine unit and special operations trailer. In addition, this vehicle would be capable of transporting four personnel and related equipment for marine rescue and other special operations incidents. Maintaining a consistent fleet (Command Vehicles, Marine Unit/Special Operations Trailer tow vehicle) would allow for rotation of vehicles from higher to lower mileage application, extending the useful life.											
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.											
CFAI Performance Indicator This project supports the following two CFAI performance indicators: 6C.1 (Critical Criteria) Apparatus types are appropriate for the functions served (e.g., operations, staff support services, specialized services, and administration). 6C.2 A current replacement schedule exists for all apparatus and support vehicles based on current federal and state/provincial recognized standards, vehicle condition, department needs, and requirements.											
Status of Specifications ☐ Not Completed ☐ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☐ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source										
Proposed Source of Funding <table border="0" style="width: 100%;"> <tr> <td>Debt</td> <td></td> </tr> <tr> <td>General Capital Projects Fund</td> <td style="text-align: right;">\$90,017</td> </tr> <tr> <td>Grant Funding (Specify)</td> <td></td> </tr> <tr> <td>Other</td> <td></td> </tr> <tr> <td>Total</td> <td style="text-align: right;">\$90,017</td> </tr> </table>		Debt		General Capital Projects Fund	\$90,017	Grant Funding (Specify)		Other		Total	\$90,017
Debt											
General Capital Projects Fund	\$90,017										
Grant Funding (Specify)											
Other											
Total	\$90,017										

Project Title 594 22 64 36 Replace Apparatus 1201 (R53)	
Estimated Change in Operational Expense In the short term, this project will have little effect on operational expense. However, the lifecycle cost of this vehicle is anticipated to be lower than the current vehicle and savings will accrue from efficiencies in maintenance of a consistent fleet.	
Submitted by Firefighter/Mechanic Mike Matros, Fleet Division Manager	Date 4/24/17
Board of Fire Commissioners Action Pending	Date

Capital Project Request and Estimate of Cost	
Project Title 594 22 64 14 Hose and Appliances	Priority High
Description This project provides for replacement of fire hose at it reaches its 15-year end of service life. Replacing 1/15th of the District's hose annually accomplishes this objective and minimizes the mean age of in-service fire hose. As the original purchase of fire hose was not done in a distributed manner, the amount of reserve hose will fluctuate as replacement is shifted to a regular schedule.	
Purpose & Justification Approximately 25% of the District has fire hydrants and the remaining 75% does not. Water supply operations involve hose lays between a fire hydrant and the fire, water tender shuttles, or a combination of these two water supply methods. Application of water for fire control requires the use of hoselines stretched from fire apparatus. The standard hose inventory carried on engines and water tenders is based on assessment of water supplies, needed fire flow, and tactical requirements based on these two factors. National Fire Protection Association Standard 1961 Standard on Fire Hose (2013) specifies that fire departments should consider a 10-year maximum service life for fire hose. The Washington Survey and Rating Bureau (WSRB) begins to increase deficiency points assigned for fire hose inventory as it ages and provides no credit for hose that exceeds 15 years of service. The first five years (2013-2017) of this project more than doubled the flow rate and distance over which that flow rate can be moved through hoselines. In addition, improvements in hose inventory contributed to the one class improvement of the WSRB Protection Class Rating in both the Town of Coupeville and unincorporated areas of the District. Now, six years into this ongoing project, the District has reduced the age of our fire hose inventory to within the maximum specified by the WSRB and now focuses on maintaining the maximum age and minimizing median age of the District's hose inventory through regularly scheduled replacement. See Appendix B-Hose Replacement Plan for additional detail on this project.	
Strategic Goal and Initiative This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.	
CFAI Performance Indicator This project supports CFAI performance indicator 6E.2 Tools and equipment replacement is scheduled, budgeted, implemented, and is adequate to meet the agency's needs.	
Status of Specifications ☐ Not Completed ☒ Completed	Procurement Process ☐ State Contract ☐ Other Joint Contract ☒ Competitive Bid ☐ Vendor List Procedure ☐ Sole Source

Project Title	
594 22 64 14 Hose and Appliances	
Proposed Source of Funding	
Debt	
General Capital Projects Fund	\$10,445
Grant Funding (Specify)	
Other	
Total	\$10,445
Estimated Change in Operational Expense	
This project will not impact operational expenses.	
Submitted by	Date
Lieutenant James Meek, Operations Division Manager	4/24/17 (Revision)
Board of Fire Commissioners Action	Date
Pending	

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Appendix A-Capital Asset Amortization

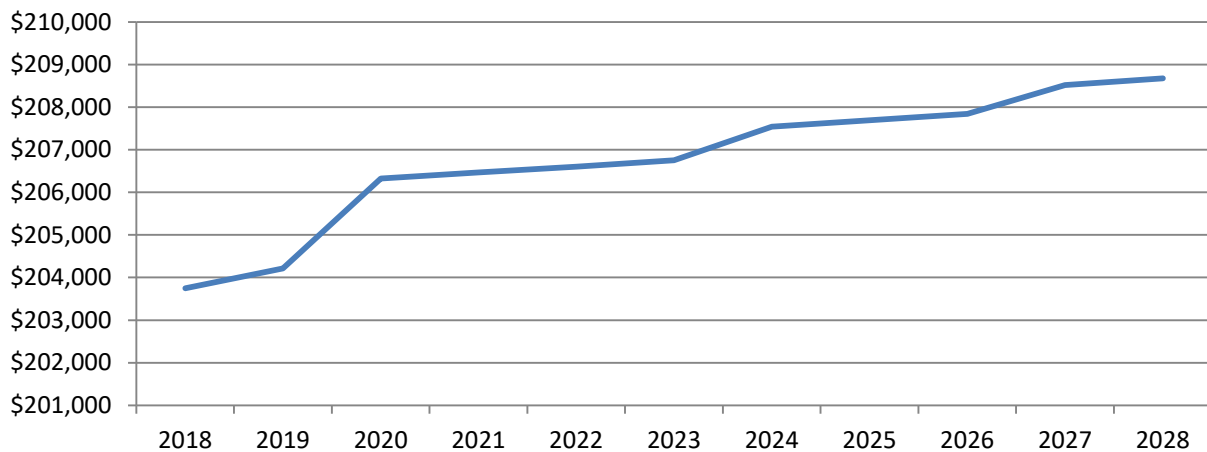
Central Whidbey Island Fire & Rescue amortizes the cost of capital assets over their anticipated useful life to determine the annual funding requirements for the General Capital Projects Fund. The cost of capital assets is anticipated to increase at approximately 1.5% per year.

In 2018 amortization of apparatus, equipment, and technological infrastructure is \$203,745, broken down as follows:

Apparatus	\$141,671
Equipment	\$41,023
Technological Infrastructure	\$19,710

When an asset is replaced, the annual amortization changes based on the cost of replacement and anticipated net future replacement cost as illustrated in Figure 2.

Figure 2. Amortization of Capital Assets 2018-2028



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Appendix B-Hose Replacement Plan

Standards

National Fire Protection Association *Standard 1961 Standard on Fire Hose* (NFPA, 2013) specifies that fire departments should consider a 10 year maximum service life for fire hose based on increased potential for critical failure as hose ages. The Washington Survey and Rating Bureau *Community Protection Class Grading Schedule* (WSRB, 2013) begins to increase deficiency points assigned for fire hose inventory as it ages with the penalty increasing over time as illustrated in Table 3.

Table 3. WSRB Deficiency Based on Age of Hose

Age of Hose	Percentage Penalty
0-5 Years	0%
5-10 Years	10%
10-15 Years	20%
+ 15 Years	30%

Note: Prior versions of the Community Protection Class Grading Schedule imposed a 100% penalty (no credit) for hose older than 15 years.

In 2014, 71% of CWIFR's small diameter hose (3" and smaller) exceeded 15 years of service. This presented two challenges. 1) Aging hose has a higher probability of failure, reducing the reliability to the District's fireground water supply and delivery system. 2) A high percentage of hose older than 15 years will negatively impact on the District's WSRB Protection Classes (CWIFR has multiple classes for the Town of Coupeville and unincorporated areas of the District within and beyond 1000' from a fire hydrant).

NFPA 1901 Standard for Automotive Fire Apparatus (NFPA, 2016) specifies the minimum hose complement for engines and water tenders (mobile water supply apparatus) as illustrated in Table 4.

Table 4. NFPA 1901 Hose Requirements by Apparatus Type

Size	Engine	Water Tender
≥2.50"	800'	200'
≥1.50"	400'	100'

The Washington Survey and Rating Bureau *Community Protection Class Grading Schedule* (WSRB, 2013) also requires specific amounts of hose on engines and additional hose in reserve as illustrated in Table 5. Reserve hose (hose above the minimum) stored on apparatus may count as reserve for a single engine while hose stored in a fire station may count as reserve for two engines.

Table 5. WSRB Hose Requirements for Engines and Reserve

Hose Size	In-Service	Reserve	Total
≥3.50"	600'	300'	900'
≥2.50"	800'	400'	1200'
≥1.50"	600'	200'	800'

Minimum hose requirements for Wildland Type 6 engines are defined by the National Wildfire Coordinating Group (NWCG). This type of engine requires a minimum of 300' of 1.50" hose and 300' of 1.00" hose.

None of the standards requirements for hose carried on fire apparatus, or in the case of the WSRB for reserve hose are based on community characteristics or specific tactical requirements. Standards provide a baseline, but operational needs often dictate a larger hose inventory and more specific distribution of hose sizes.

Tactical Considerations

Determining the hose inventory carried on apparatus, and by extension the amount of fire hose in reserve is dependent on the characteristics of the community and tactical operations necessary to develop an adequate fireground water supply and apply that water effectively during firefighting operations.

Central Whidbey is a rural community with approximately 25% of its response area served by water systems having hydrants. In hydranted areas deployment of a supply line between a hydrant and the fire location provides an effective means of fireground water supply. The remainder of the community is dependent on use of water tender shuttle as a water supply tactic. However, even when water tenders are used to shuttle water, supply lines are a critical link in fireground water supply as the supply point or fire location is often located remote from a easily accessible street location.

Based on hydrant spacing, the number of long driveways, and configuration of water tender fill points, CWIFR has elected to equip both Type 1 Engines and Type 1 Water Tenders with 5" supply hose. Engines carry 1100' of 5" hose in 100' sections in the hosebed and additional 50' and 25' sections in a compartment to maximize the efficiency of deployment. Water Tenders carry 600' of 5" hose in 100' sections in the hosebed and additional 50' and 25' sections in a compartment. This configuration allows a single engine to deploy a 1000' supply line with reserve to replace a broken length if one becomes damaged during water supply operations (e.g., run over by an automobile). Two engines can work together to establish a 2000' supply line with similar reserve. Water Tenders are equipped with 5" hose to aid in establishing a tender fill point or to augment water supply capability in hydranted areas.

Establishing an adequate water supply on the fireground is only part of the battle. For effective fire control, it is essential to rapidly deploy hoselines for water application. Often this is accomplished using preconnected, small diameter hoselines. In other cases, when the fire is located at a considerable distance from the apparatus, it is necessary to extend larger hoseline and then divide that line into

multiple smaller lines for firefighting operations. CWIFR's water delivery system is comprised of multiple sizes of small diameter hose. The typical attack line for residential fires is a 200' long 1.75" preconnected hoseline. For larger fires requiring a higher flow rate, the District commonly uses 200' long 2.00" preconnected hoselines. When working at a distance over 200', 3.00" hose is used to establish a horizontal standpipe which then supplies multiple 1.75" or 2.00" attack lines. 3" hose is also used to supply high flow portable master streams for defensive operations. The standard complement of small diameter hose on CWIFR Type 1 Engines is 1000' of 3.00" hose, 500' of 2.00" hose, and 500' of 1.75" hose. Water Tenders carry 300' of 3.00" hose and 300' of 1.75" hose. As illustrated in Table 6,

Goals and Performance Indicators

The District's Hose Replacement Plan addresses several of the District's Strategic Goals and related performance indicators. In addition, this plan supports achievement of one of the Commission on Fire Accreditation International performance indicators.

Strategic Goal and Initiative

The District's Hose Replacement Plan supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.

CFAI Performance Indicator

The District's Hose Replacement Plan supports CFAI performance indicator 6E.2 Tools and equipment replacement is scheduled, budgeted, implemented, and is adequate to meet the agency's needs.

Hose Replacement Plan Goals

As previously discussed, there are multiple, intersecting requirements for the inventory of in-service and reserve fire hose. The first priority is to meet the District's tactical needs for effective water supply and delivery. However, it is incumbent on the District to consider the implications of the WSRB requirements as they impact on the communities Protection Class ratings. The CWIFR Hose Replacement Plan is intended to meet the following goals:

- Ensure that District fire apparatus has sufficient supply hose to effectively meet tactical water supply requirements in hydranted and unhydranted areas of the community.
- Maximize the effectiveness and efficiency of firefighting operations by providing an adequate inventory of small diameter hose for water delivery for firefighting operations.
- Ensure that all in-service fire hose is less than 15 years old.
- Minimize the average age of fire hose in the District's inventory.
- Ensure that the District meets or exceeds fire hose inventory requirements specified by the WSRB

The Way Forward

In order to achieve each of the goals of the Hose Replacement Program, the District must identify the total required fire hose inventory by integrating its tactical requirements, the WSRB requirements for in-service and reserve hose, and practical operational requirements for reserve hose. Table 6 identifies the WSRB requirements, CWIFR's tactical requirements, and reserve hose requirements on a per engine basis. Reserve hose is divided into two categories, hose stored on Engine 542, an engine assigned to the Training and Recruitment Division that is not used as a reserve engine and hose stored on the rack in fire stations (all of this hose is considered in-station by the WSRB as Engine 542 is not used as a reserve engine). The WSRB does not specify hose requirements for water tenders.

Table 6. WSRB and CWIFR Tactical Requirements for Hose Per Engine

Size	WSRB Requirements			CWIFR Tactical Requirements (Per Engine)				Variance
	In-Service	Reserve	Total	In-Service	Reserve (542)	Reserve (Rack)	Total	
5.00"	600'	300'	900'	1175'	294'	175'	1644'	744'
3.00"	800'	400'	1200'	1000'	250'	100'	1350'	150'
2.00"	600'	200'	800'	500'	125'	200'	825'	850'
1.75"				500'	125'	200'	825'	

Note: Reserve hose carried on Training Engine 542 is divided by four (the number of in-service and reserve engines) this added to the reserve hose stored on the rack in fire stations defines the amount of reserve hose maintained per in-service or reserve engine.

As illustrated in Table 6, when the District's hose inventory is updated to meet its specified tactical requirements a majority of the WSRB requirements for in-service and reserve hose with the inventory normally carried on its engines (the exception being 3" hose). CWIFR's tactical requirements for reserve hose are based on the need for a full complement of hose on the training engine and a small amount of hose in each fire station for replacement of hose that may be damaged or to minimize the storage of wet hose in apparatus compartments (i.e., hose may be replaced from reserve while wet hose is being dried).

Beginning in 2014, the District began increasing its inventory of 5" hose. Some of this hose was purchased new (providing a 15 year service life). In addition, the District purchased some used hose which had not yet reached its end of life. This allowed a substantial improvement in tactical capability at a considerable savings. This uses 5" hose will need replacement prior to the new hose purchased by the District.

Concurrent with addition of 5" hose to the CWIFR inventory, the District began replacement of 2.50" hose with 2.00" hose and replacement of other small diameter hose beginning with hose that had more than 15 years of service. Considerable progress has been made in replacement of aging hose with achievement of the goals of the hose replacement program schedule for 2019 by completing replacements and additions identified in Table 7.

Table 7. Hose Purchases Programed for 2017-2019

Hose Size	2017	2018	2019
1.00"	200'	200'	200'
1.50"	As Needed	As Needed	As Needed
1.75"	450'	300'	300'
2.00"	300'	<i>Defer additional 2.00" hose until 2020</i>	
3.00"	1200'	1150'	1150'
5.00"	<i>Begin replacement in 2020</i>		

This process will be completed by 2019 at which point the District will be on track to maintain a consistent replacement schedule in accordance with the goals of the hose replacement program.

Table 8 outlines the required amounts of hose by size, based on the CWIFR's minimum requirements and the amount of hose by size that should be replaced annually if the District is to meet each of the objectives identified for the hose replacement program.

Table 8. CWIFR Total Hose Inventory Requirements

Unit	5"	3"	2"	1-3/4"	1-1/2"	1"
E51	1175'	1000'	500'	500'	n/a	200'
E512	1175'	1000'	500'	500'	n/a	200'
E53	1175'	1000'	500'	500'	n/a	200'
E54	1175'	1000'	500'	500'	n/a	200'
T51	675'	400'	n/a	300'	n/a	n/a
T53	675'	400'	n/a	300'	n/a	n/a
T54	675'	400'	n/a	300'	n/a	n/a
B53	n/a	100'	n/a	150'	400'	400'
B54	n/a	100'	n/a	150'	400'	400'
Reserve (E542)	1175'	1000'	500'	500'	n/a	200'
Reserve (Rack)	300'	400'	800'	800'	300'	300'
Total	8200'	6800'	3300'	4500'	1100'	2100'
Annual Replacement	550'	500'	150'	300'	100'	200'

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Appendix C-Extrication Equipment Replacement Plan

Current Inventory

Hydraulic rescue tools are used to spread, lift, pry, and cut material as needed to extricate trapped victims. The most common use of these tools involves rescuing victims from crashed motor vehicles.

In 2004 a grant obtained by the Island County Department of Emergency Management was used to purchase one set of Holmatro hydraulic rescue equipment for all fire and rescue agencies in the county. CWIFR traded the new equipment that would have been purchased for the District for a Hurst power unit/hydraulic pump, large spreaders, a combination spreader/cutter, and set of three rams that had been used by the other agencies included in the grant. This provided the District with a larger number of hydraulic rescue tools and maintained consistency with the tools in use by the District at that time. Hydraulic rescue tools were placed on the District's rescue apparatus (Rescue 51 and Rescues (Now Brush) 53 and 54, and on Engine 53. Table 9 illustrates the District's current inventory and distribution of hydraulic rescue tools:

Table 9. Hydraulic Rescue Tool Inventory and Distribution

Location	Equipment Description
Rescue 51	Hurst Power Unit/Hydraulic Pump
	Hurst Hydraulic Spreader
	Hurst Hydraulic Cutter
Engine 53	Hurst Power Unit/Hydraulic Pump
	Hurst Hydraulic Spreader
	Hurst Hydraulic Cutter
	1' Hydraulic Ram
	2' Hydraulic Ram
	3' Hydraulic Ram
Brush 53	Hurst Power Unit/Hydraulic Pump
	Hurst Hydraulic Spreader
	Hurst Hydraulic Cutter
Brush 54	Hurst Power Unit/Hydraulic Pump
	Hurst Hydraulic Spreader
	Hurst Hydraulic Cutter
Station 52 (Reserve)	Hurst Power Unit/Hydraulic Pump
	Hydraulic Combination Spreader/Cutter

Regulations and Standards

Washington Administrative Code (WAC) 296-305 Safety Standards for Firefighters does not specifically address requirements for hydraulic rescue tools and related equipment other than to state that “equipment necessary for technical rescue incidents shall be provide by the fire department.”

NFPA 1936 Standard on Powered Rescue Tools specifies performance requirements for powered rescue tools and components. This standard was first issued in 1999 and has undergone revisions on a five year cycle. The current edition was published in 2015 and is schedule for revision by 2020. NFPA 1936 provides baseline requirements for determining the acceptability of powered rescue tools using a series of 25 tests and clearly defined performance standards.

Changes in the Operational Environment

The technology used in construction of motor vehicles has changed considerably since the development of first and even second generation hydraulic rescue tools. Modern vehicles have structural components that are considerably stronger and resistant to spreading and cutting than older vehicles.

The trigger event that has brought about the improved “crashworthiness” in late-model vehicles is the government’s push to improve the side-impact and roof crush resistance by changing federal motor vehicle safety standards. Automakers have responded to this engineering challenge in two basic ways. One solution that the vehicle design engineers came up with is to reinforce the side and roof structure areas of a vehicle with more layers or thicker layers of steel. The second engineered solution is to make areas such as B-pillars, roof rails, and rocker channels of ultra high-strength steels, otherwise known as advanced steels (Moore, 2009)

Older hydraulic rescue tools, spreaders, rams, and more specifically cutters will stall out and fail to perform as intended when faced with high strength steel and other modern materials used in vehicle construction.

Changes in Extrication Tool Technology

First and second generation hydraulic rescue tools were powered by a small gasoline engine (two- or four-cycle) gasoline engine driving a hydraulic pump that was connected to the tools using hydraulic hoses. This option is still available, with hydraulic pumps having greater capacity to run multiple tools simultaneously and provide a higher level of pressure to the working tools. In addition, improvements in battery technology have provided the ability to power a remote hydraulic pump with electric power as well as battery operated hydraulic tools that compare favorably with tools powered by a separate hydraulic pump.

Goals and Performance Indicators

The District’s Extrication Equipment Replacement Plan addresses several of the District’s Strategic Goals and related performance indicators. In addition, this plan supports achievement of one of the Commission on Fire Accreditation International performance indicators.

Strategic Goal and Initiative

This project supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.

CFAI Performance Indicator

This project supports CFAI performance indicator 6E.2 Tools and equipment replacement is scheduled, budgeted, implemented, and is adequate to meet the agency's needs.

Extrication Equipment Replacement Plan Goals

The primary purpose of the Extrication Equipment Replacement Plan is to ensure that the District has adequate capability to provide vehicle and machinery rescue and other rescue services requiring the use of specialized hydraulic rescue tools for lifting, spreading, and cutting and to minimize the overall cost of maintaining this equipment over its lifecycle. The CWIFR Breathing Apparatus Replacement Plan is intended to meet the following goals:

- Ensure that the District has an adequate number and distribution of hydraulic rescue tools to support effective rescue operations.
- Maximize interoperability with automatic and mutual aid partners.
- Minimize the overall operational cost of maintaining the District's inventory hydraulic rescue tools and related equipment.

The Way Forward

Historically the District has had a limited number of vehicle crashes requiring the use of hydraulic rescue tools for extrication. That said, there are two state highways and a number of county roads with reasonably high speed limits, curves, limited visibility, and other conditions that may result in high speed collisions. Based on environmental conditions and incident history, the CWIFR has a moderate risk for vehicle crashes requiring complex extrication. The District's prior deployment model was to place a substantial number of hydraulic rescue tools on apparatus distributed throughout the District. This approach required a substantial level of extrication training for all members. This training requirement is further increased due to the presence of supplemental restraint systems and complexity of vehicle design and construction methods. In addition, the number of hydraulic rescue tools and related power units/hydraulic pumps presents a significant maintenance demand. Maximizing the District's capability and minimizing ongoing operational cost can be enhanced by reducing the number of tools, providing a comprehensive set of tools based on identified risks, and deploying these resources on Rescue Engine 53.

Extrication tool technology is changing rapidly and it is uncertain which option will provide the District with the greatest capability with the lowest tool weight at a reasonable price. Evaluation of this technology and development of specifications for purchase will be a key element of the replacement plan over the next several years.

Appendix D-Self-Contained Breathing Apparatus Replacement Plan

Current Inventory

In 2006, the District purchased 35 self-contained breathing apparatus (SCBA), one rescue air supply, and 71-4500 psi SCBA cylinders (70-45 cubic foot cylinders and one 87 cubic foot cylinder). These SCBA were manufactured to meet National Fire Protection Association (NFPA) 1981 *Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services* (NFPA, 2002). The cylinders purchased by the District are fully wrapped carbon composite cylinders manufactured by Luxfer to the specifications of DOT Special Permit SP 10915 (DOT, 2013). These cylinders will reach their design life of 15 years in 2021. Since 2006, the District has purchased and maintained individual facepieces for each firefighter and officer serving with the District.

Regulations and Standards

Multiple regulations and standards impact on self-contained breathing apparatus (SCBA) and related respiratory protective equipment. These include:

- Washington Administrative Code (WAC) 296-305 Safety Standards for Firefighters.
- National Fire Protection Association (NFPA) 1852 *Standard on selection, care, and maintenance of open-circuit self-contained breathing apparatus (SCBA)* (NFPA, 2013).
- National Fire Protection Association (NFPA) 1981 *Standard on Open-Circuit Self-Contained Breathing Apparatus for Emergency Services* (NFPA, 2013).
- National Fire Protection Association (NFPA) 1982 *Standard on Personal Alert Safety Systems (PASS)* (NFPA, 2013)
- National Fire Protection Association (NFPA) 1901 *Standard for automotive fire apparatus*. (NFPA, 2016).

Regulations

The principal regulation impacting on self-contained breathing apparatus used by the fire service in Washington State is WAC 296-305. This regulation specifies:

Firefighter's self-contained breathing apparatus (SCBA) shall, at a minimum, meet the requirements of the 1997 edition of NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire Fighters*. Equipment purchased after the effective date of this rule must meet the 2007 edition of NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Emergency Services* (WAC 296-305-04001)

Each firefighter engaged in structural firefighting requiring the use of SCBA shall wear and use a PASS device. PASS devices shall meet the requirements of the 1993 edition of NFPA 1982, *Standard on Personal Alert Safety Systems (PASS) for Firefighters* (WAC 296-305-02017).

While WAC 296-305 requires compliance with specific editions of National Fire Protection Association (NFPA) standards, breathing apparatus purchased after the promulgation of a new edition of the standard is manufactured and tested to the current standard (other than used equipment, SCBA meeting prior editions of the standard are not available).

Standards

NFPA 1981 is the major standard impacting on SCBA design and performance. This standard is on a five year revision cycle and has undergone two revisions since 2006 (when the District's current SCBA were purchased). NFPA 1981 is currently in revision with the new standard being published in 2017.

Changes to NFPA 1981 in 2007 included (Bernzweig, 2007):

- All SCBA components must meet standard requirements for resistance against chemical, biological, radiological, nuclear agents.
- SCBA are required to have a separate user-viewable pressure gauge in addition to the heads-up display (HUD). In addition, where a digital pressure gauge is used, it must have an independent power supply, so as not to be impacted by a failure affecting the HUD.
- Where electronic devices are incorporated into the SCBA, the devices shall continue to function properly for at least two hours following a low power source visual alert (low battery light).
- Exhaled carbon dioxide (CO₂) measured inside the SCBA facepiece must be one percent or less in the inhalation air, as opposed to the 1.5 percent allowed in the previous edition of the standard.
- Changes were made to the performance and test requirements for voice communications to improve validity and repeatability of the test, voice intelligibility and range.
- PASS devices are required to undergo additional tests to ensure that the alarm will perform adequately regardless of the position of a downed firefighter and to ensure the long-term durability and performance of the PASS device.
- PASS devices must also provide data logging with a date/time stamp for specific events to aid in evaluating device performance.

In 2013 there were substantive revisions to NFPA 1981 (Scott Safety, 2013):

- Increased facepiece lens durability requirements through additional tests designed to assess the integrity of the lens and facepiece under severe thermal conditions.
- Voice intelligibility requirements were increased along with additional tests for mechanical (non-amplified) and amplified communication performance.
- The end-of-service time indicator (EOSTI) was moved from 25% to 33% of cylinder pressure to provide increased reserve capacity. Table 10 illustrates the change as applied to breathing apparatus using 4500 psi cylinders.

Table 10. SCBA EOSTI Alarm Points

Cylinder Rated Pressure	Alarm Point at 25%	Alarm Point at 33%
4500 psi	1125 psi	1500 psi

This change has significant implications based on the capacity of the cylinders being used. The District currently uses 45 cubic foot 4500 psi cylinders. Maintaining the same cylinder capacity while increasing the volume allocated as reserve reduces the work cycle (entry, work, and exit). This likely will require a change from 45 cubic foot to 66 cubic foot cylinders to maintain an adequate fireground work cycle.

- Minimum performance and approval requirements for Emergency Breathing Support Systems (EBSS).
- For SCBA using a wired HUD system, the user shall not be able to disconnect the HUD wire and still maintain the air connection.
- SCBA and PASS must meet the Class I, Division I intrinsic safety requirements set forth in UL 913 (6th Edition).
- Universal sounding alarm so that all PASS devices (regardless of manufacturer) will have the same sound for both pre-alarm and full alarm.

NFPA 1981 is currently under revision for publication in 2018. Anticipated revisions to the standard include (Scott Safety, 2016):

- Testing the strength of the low pressure hose and interface between the regulator and facepiece.
- Increased requirements for pneumatic data logging including when the SCBA was activated, pressure at 30 second intervals, pressure milestones (75%, 50%, EOSTI activation), breathing rate, HUD deactivation, and retention of 36 hours of data.
- Universal EBSS Fitting (for all manufacturers) and specific EBSS configuration requirements including minimum hose length, use with one hand, and visibility.
- Established standards for hard wired and wireless (Bluetooth) interface between the SCBA communications system and portable radios.
- Improved standards for radio frequency (RF) PASS to improve reliability.
- Changed PASS Tone to improve volume and ability to discern direction and track the location of the sound.

National Fire Protection Association (NFPA) *1852 Standard on Selection, Care, and Maintenance of Open-Circuit Self-Contained Breathing Apparatus (SCBA)* (NFPA, 2013) requires that SCBA composite cylinders shall be removed from service and retired when they reach the end of the service life specified by the SCBA manufacturer. In the case of the cylinders used by CWIFR, this is 15 years.

The Washington Survey and Rating Bureau *Community Protection Class Grading Schedule* (WSRB, 2013) references National Fire Protection Association (NFPA) 1901 Standard for Automotive Fire Apparatus (2016) with regards to required equipment for fire apparatus. The general guidance provided by this standard is that there be one SCBA for each assigned seating position, but not less than four SCBA on each engine. SCBA requirements are not specified for water tenders or Type 6 (wildland engines).

Considerations

Review of the regulations and standards impacting on SCBA, provides the following considerations:

- All of the District's cylinders will need to be replaced in 2021 (or before).
- Given the substantive changes in NFPA 1981, it is recommended that the District bring its SCBA into compliance with the current edition of the standard at such time that SCBA cylinders are replaced.
- The District did not upgrade its SCBA to meet the requirements of the 2007 or 2013 editions of NFPA 1981. While remaining compliant with the requirements of WAC 296-305 (which only requires that SCBA comply with the 1997 edition of NFPA 1981), the expense of upgrading to the 2013 or 2018 edition of the standard would be almost as expensive as replacing the SCBA. Replacing the SCBA would also provide a 10-year warranty (upgrading the existing SCBA would not provide a warranty).
- Effective firefighter rescue operations, particularly in the event of a low air emergency, may require the use of multiple rescue air supplies. At present the District has one. As such it is recommended that this equipment be standard on all engine companies.
- While the current number of spare cylinders has generally been adequate for routine fireground operations, increasing the number of spare cylinders will provide considerably improved capability when operating at fires in larger buildings such as the county complex or hospital.

Goals and Performance Indicators

The Self-Contained Breathing Apparatus Replacement Plan addresses several of the District's Strategic Goals and related performance indicators. In addition, this plan supports achievement of one of the Commission on Fire Accreditation International performance indicators.

Strategic Goal and Initiative

The Self-Contained Breathing Apparatus Replacement Plan supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle. In addition, this project supports the District's strategic goal to reduce incident frequency and severity [Community] and the related initiative to improve operational capability to address community risks.

CFAI Performance Indicator

The Self-Contained Breathing Apparatus Replacement Plan supports CFAI performance indicator 6F.3 safety equipment replacement is scheduled, budgeted, implemented, and adequate to meet the agency's needs.

Breathing Apparatus Replacement Plan Goals

The primary purpose of the Breathing Apparatus Replacement Plan is to ensure adequate respiratory protection during incident operations and to minimize the overall cost of maintaining this equipment over its lifecycle. The CWIFR Breathing Apparatus Replacement Plan is intended to meet the following goals:

- Ensure that the District has an adequate number and distribution of SCBA and related respiratory protective equipment to support effective fireground operations.
- Maximize interoperability with automatic and mutual aid partners.
- Minimize the overall operational cost of maintaining the District's inventory of SCBA and related respiratory protective equipment.
- Ensure that cylinders do not exceed their service life.

The Way Forward

The District currently has 35 SCBA, 35 spare cylinders, and a single rescue air supply. Table 11 illustrates the proposed number and distribution of SCBA. Increasing the number of SCBA from 35 to 37 provides a single SCBA for each normally assigned seating position and reserve of four SCBA (stored on the Training Engine 542). This inventory (increase of two SCBA) will ensure adequate numbers of SCBA and provide reserve capacity to allow for maintenance and repair without reducing the number of SCBA on in-service units.

Making the rescue air supply standard engine company equipment as illustrated in Table 11 significantly improves CWIFR's capability to respond to a low air emergency on the fireground.

Increasing the number of spare cylinders from 35 to 52 will provide one spare cylinder for each SCBA on apparatus and six spare cylinders on each of the District's command units. When combined with the cascade system on Rescue 51, this ensures adequate fireground air supply for initial and extended fireground operations requiring the use of SCBA.

Table 11. SCBA and Cylinder Inventory

Unit	SCBA	Rescue Air Supply	Spare Cylinders
E51	4	1	4
E512	4	1	4
E53	4	1	4
E54	4	1	4
Training (E542)	4	1	4
T51	2		2
T53	2		2
T54	2		2
R51	2		2
R53	2		2
B53	2		2
B54	2		2
C501	1		6
C502	1		6
C505	1		6
Total	37	5	52

Work to be completed prior to 2021 includes review and assessment of the capabilities and limitations of SCBA and related respiratory protective equipment that meets current (and anticipated) standards. This effort will be conducted in conjunction with automatic and mutual aid partners to improve interoperability and increase the potential for cost savings based on group purchasing.

Appendix E-Personal Protective Equipment Replacement Plan

The District has elected to include some equipment (such as fire hose) that has a useful life of greater than three years and a unit price of less than \$5,000, but a total annual cost of greater than \$5,000 within the Capital Projects Plan. The District spends far more than \$5,000 on personal protective equipment annually and this equipment has a lifespan of 10-years. As such we will be shifting this expense from the operating budget to the capital budget and will develop a Personal Protective Equipment Replacement Plan prior to 2019.

Goals and Performance Indicators

The Personal Protective Equipment Replacement Plan addresses several of the District's Strategic Goals and related performance indicators. In addition, this plan supports achievement of one of the Commission on Fire Accreditation International performance indicators.

Strategic Goal and Initiative

The Personal Protective Equipment Replacement Plan supports the District's Strategic goal to maintain adequate infrastructure to support operations [Resources] and the related initiative to maintain the District's apparatus and equipment to minimize operational cost over their lifecycle.

CFAI Performance Indicator

The Personal Protective Equipment Replacement Plan supports CFAI performance indicator 6F.3 safety equipment replacement is scheduled, budgeted, implemented, and adequate to meet the agency's needs.

Personal Protective Equipment Replacement Plan Goals

The primary purpose of the Personal Protective Equipment Replacement Plan is to ensure adequate respiratory protection during incident operations and to minimize the overall cost of maintaining this equipment over its lifecycle. The CWIFR Breathing Apparatus Replacement Plan is intended to meet the following goals:

- Ensure that the District has an adequate number and distribution of personal protective equipment to support emergency operations.
- Ensure that each member's primary structural firefighting ensemble is within its service life of not more than 10 years.
- Endeavor to provide each member with a second structural firefighting ensemble to allow decontamination, cleaning, and maintenance of protective clothing while keeping the member in-service.
- Minimize the overall operational cost of maintaining the District's inventory of personal protective equipment.

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Appendix F-Information Technology Infrastructure Plan

Central Whidbey Island Fire & Rescue has seen considerable growth in the use of technology to support District operations over the last seven years. However, there has not been a strategic focus on technology as an integrated internal process supporting the District's mission. In 2016, the District recognized that leveraging technological advances, particularly in information technology to maximize efficiency and effectiveness as well as minimizing lifecycle cost of information technology assets was a significant need. As such the district will develop a technology strategy and information technology infrastructure plan prior to 2019.

Information Technology Infrastructure Plan Goals

The primary purpose of the Information Technology Infrastructure Plan is to provide a comprehensive framework for reliable, innovative, and high quality information technology solutions in support of the District's mission. The Information Technology Infrastructure Plan is intended to meet the following goals:

- Provide a stable, reliable, and scalable information technology platform to support CWIFR's mission.
- Eliminate or improve technology systems that hinder or interfere with the success of the mission.
- Reduce the complexity of the technological environment.
- Identify and implement technology solutions that reduce the total cost of ownership (inclusive of the technology and related staff time impacts).
- Endeavor to provide interoperability of data systems and devices.

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Appendix G-Facilities Maintenance Plan

The District is in the process of completing a comprehensive Facilities Maintenance Plan. This plan addresses routine maintenance activities and capital maintenance projects. As recommended by the Government Finance Officers Association (GFOA, 2013) the CWIFR's capital facilities maintenance projects are integrated in the District's Capital Projects Plan. Additional detail on this plan and its integration with the Capital Projects Plan will be inserted in this appendix following finalization of the Facilities Maintenance Plan.

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Appendix H Deferred Projects

Deferred projects include renovation and expansion of Stations 51 and 54. Additional detail on these projects is provided in Capital Facilities Planning: Central Whidbey Island Fire & Rescue (Rice Fergus Miller, 2015).

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