
MEMORANDUM TO COUNCIL

To: Mayor and City Council Members
From: Bil Homka, Planning Director
Through: Erin Reinders, City Manager
Date: January 11, 2021
Re: First Draft of FY22-31 Capital and Major Maintenance Plan (CMMP)

SUMMARY: Every year, City Council reviews the Capital and Major Maintenance Plan (CMMP). This is the first draft of the FY22-31 CMMP. Last year the Planning Department overhauled the CMMP Process Guide and introduced City Council to a process involving weighted priorities to assist with determining project rankings. The project nomination process also transitioned to using the city's GIS system. New this year is a 10 Year CMMP, whereas all prior plans spanned a 5 year period.

DISCUSSION: We kicked off the FY22-31 CMMP cycle at a zoom meeting on October 14, 2020. Department directors, managers and any support staff involved with preparing CMMP nominations were invited to attend the training. The Planning Department reviewed the process guide, weighting system for prioritizing projects, and answered any questions about using the city GIS system for project entry. New this year is a consolidated budget calendar that was made available using the city's Microsoft Outlook account. This is a live calendar feature and appears to be working well for the CMMP and other budget processes and deadlines. There are several new Directors this year and Planning Staff made appointments with them to provide additional assistance with the process.

The Technical Advisory Committee (TAC) met on December 22, 2020 to review 31 projects submitted for funding in FY22. The TAC consists of the City Manager, Finance Director, Public Works Director and the Planning Director. The TAC reviewed projects based on need and priority scores. A few projects were rejected such as a new boat for public safety and fire. Others were recommended to be combined together in projects of similar character or department. Several projects were referred back to the applying department because they were more operational in character than a capital or maintenance project (CMMP). Examples include new software, body cameras, and personal safety equipment. This is the result of an ongoing discussion about what should be part of the capital budget and what should be part of a department operating budget. As a result, City Council should expect to see an increased budget request for such items in some department operational budget requests this year.

The information herein is as of Wednesday January 6, 2021. This is not the final CMMP but it is intended to provide City Council the opportunity to view and comment on the work thus far. Comments and concerns will either be incorporated into the CMMP or discussed among the departments and administration to determine the best course of action. A

second draft will be presented to City Council in March, 2021. The final CMMP document will be presented for review and approval in April.

PREVIOUS COUNCIL ACTION: Council reviews the CMMP each year in January. No formal action is taken at this time.

BACKGROUND: Last year City Council reviewed and approved the FY21-25 CMMP, with 29 projects and a total portfolio of \$194,689,962 over the five-year CMMP period. However, the first year of the CMMP is the most important because the financial figure represents what is approved to be budgeted. The council approved \$4,219,131 to fund FY21 projects. A graph of the past five CMMP Budget Years can be seen in Figure 1 below.

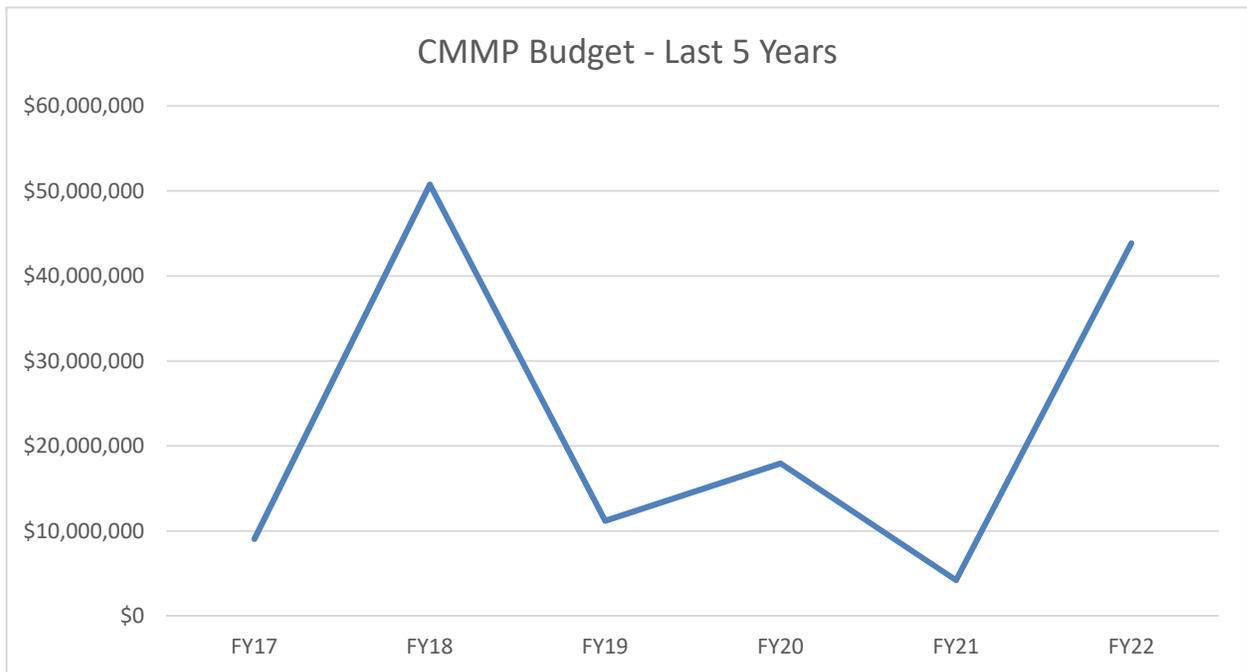


Figure 1

The FY22-31 Draft CMMP presented for your review and comment proposes 63 projects at a cost of \$214,740,291 over the next ten years. The FY22 portion of the Draft CMMP proposes nineteen (19) projects for a total cost of \$43,842,689. There are six (6) electric projects proposing \$5,720,000 in General Fund and \$4,264,938 in Proprietary funds for a total of \$9,984,938. A special project proposed the Information Services division of the Finance Department proposes to use \$2,570,324 in General Funds to install city owned conduit in conjunction with the GCI fiber optic project proposed for Unalaska. The first phase is anticipated to begin in the 2021 construction season.

Parks, Culture and Recreation proposes one project for FY22 using \$30,000 in General Funds. Public Safety and Fire projects for FY22 will be proposed as operational budget requests. The Planning Department did not propose any projects for the FY22 CMMP.

Ports and Harbors proposed two projects. Federal grant funding was recently approved for the Entrance Channel Dredging project which requires a city matching contribution proposed to be paid from the General Fund. The Bobby Stores Boat Harbor project also involves grant funding and the balance paid is proposed to be paid from the Ports Proprietary Fund. Grant funding accounts for 38% of the FY22 request, or \$16,733,500.

Public Works has identified three projects for funding in FY22 totaling \$778,827. Solid Waste and Wastewater Proprietary Funds are not proposing any projects for FY22. The Water Utility proposes four projects totaling \$2,034,500 to be funded completely from the Water Proprietary Fund.

By comparison the FY21 CMMP budget contained seven (7) projects totaling \$4,219,131. The FY22 CMMP budget proposes 19 projects totaling \$43,842,689. Thus, the FY22 CMMP proposed project schedule has twelve (12) more projects and \$39,623,558 more than the approved FY21 CMMP.

ALTERNATIVES: The memo and presentation are for informational purposes only. City Council is free to express concerns, recommendations or other comments and Staff will work to incorporate the changes into the CMMP. Staff will present the modified CMMP Draft at the next scheduled meeting in March unless requested earlier.

FINANCIAL IMPLICATIONS: City Council reviews the CMMP each year for an opportunity to have input and subsequently adopt the CMMP as part of the overall budgeting process. Title 6 of the Unalaska City Code requires the City Manager to submit a five-year capital improvement plan and budget of the proposed projects each year in conjunction with the City's operating budget. Each year, the City Council adopts the CMMP to help identify needs and set spending priorities for the coming five-year period.

LEGAL: Not applicable.

STAFF RECOMMENDATION: No recommendation.

PROPOSED MOTION: No council action required.

CITY MANAGER COMMENTS: The Planning Department continues to do a wonderful job coordinating the CMMP process. Staff looks forward to your feedback on this draft as we work to refine and develop the second draft.

ATTACHMENTS:

- FY22-31 Draft CMMP Summary Sheets
- Budget Tables
- Ranking Table
- Project Timeline

Electric

34.5 kV Submarine Cable Replacement

Pre-Design: 2022
Construction: 2024

Engineering: 2023

Description: The Electric Utility relies on the 34.5 kV sub transmission system to deliver power to major Industrial loads and to the Town Substation using two existing feeders. One feeder crosses Iliukiuk Bay between East Point Road and Bay View Avenue. This feeder is nearing the end of its lifespan and replacement will be required.

Need: The submarine cable crossing is understood to be approximately 30 years old and was originally installed by the City line-crew. At the East Point Road entrance point, the cable is no longer buried completely and is easily approachable at low tide. Furthermore, large rocks have been moved by waves over the years are now sitting directly on the cable. While undersea cable has a durable outer jacketing and is more protected by its construction than a typical 15 kV cable, the current condition does represent a safety problem and should be corrected as soon as feasible.

Project Plan and Funding: Once a preliminary design is completed, then the Section 10 permit package can be developed and filed with the Army Corps of Engineers. The project assumes the Corps will determine that the cable project will qualify for a Nationwide permit, which a streamlined version of an individual permit. The Corps will coordinate with federal and state resource agencies during the review process. The agencies will consider project impacts to endangered species, impaired waterbodies, and fish habitats. The Corps usually issue a Nationwide Section 10 permit within three months of receiving a completed application. It is assumed that the new submarine cable will be installed in the same location and with the same points of connection as the existing line. However, the capacity of this line should be updated during the engineering planning phase of this project in order to better serve the current and future loads. Engineering coordination with the express feeder project will be required. Additionally, a cable condition assessment and inspection should occur very soon. The results of this inspection may affect the replacement schedule of the submarine cable. The money for this project will come from the Electrical Proprietary Fund.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Electric Proprietary Fund	0	60,000	120,000	2,160,000	0	0	0	0	0	0	0	2,340,000
Total	0	60,000	120,000	2,160,000	0	0	0	0	0	0	0	2,340,000

Electric Energy Storage System

Pre-Design: 2019
Construction: 2022

Engineering: 2020

Description: This nomination is for the final design, procurement, construction, integration and commissioning of one 1 MW PowerStore PCS (16.5MJ) flywheel system, space for future second flywheel system, and related components.

Need: The electrical loads introduced the City’s electrical grid by equipment such as large ship to shore cranes are outside the intended loading profile. To counter these rapid changes in load, which at times reach levels of 10 to 15% of the total load in seconds, the engines must constantly react to both the rapid increases and decreases of the system load. The engines reaction to these changes decreases efficiency and creates undue mechanical and electrical wear on the equipment and distribution system. In addition generation dispatch is

often significantly effected due to the inability of the facilities to run in the most efficient configuration possible. The proposed Flywheel system will arrest the rapid changes in the electrical load.

Project Plan and Funding: Design will be accomplished in FY2019 and FY2020. Installation of the Flywheel equipment will be in FY2021. Permitting is not expected for this project. Money for this project will come from the Electrical Proprietary Fund.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Electric Proprietary Fund	650,062	3,549,938	0	0	0	0	0	0	0	0	0	4,200,000
Total	650,062	3,549,938	0	0	0	0	0	0	0	0	0	4,200,000

Electrical Breakers Maintenance and Service

Pre-Design: 2027
Construction: 2027

Engineering: 2027

Description: A qualified industry service company who specializes in the maintenance of utility electrical equipment will service all Generation and distribution/feeder breakers at the New and Old Powerhouse and Town Substation. Breakers will be assessed and serviced. A detailed report indicating condition of the specific breakers would be provided along with recommended service maintenance intervals per the relevant industry codes.

Need: The City operates two powerhouses, New and Old Powerhouse, and one substation. Each of these facilities has at least one if not two primary electrical switchgear line-ups within each. Electrical switchgear require maintenance and cleaning to ensure proper operation. Safe operation switchgear reduces risks of arc-flash issues and improves operator's safety. In the last five years, there has been very little major maintenance and testing activities performed at either powerhouses or Town Substation switchgear line-ups. Only general visual maintenance has been performed with one exception. During the installation of the Unit 12 (CAT C280) project, a modification at the Town Substation was made as part of the project. During the implementation of the modification, the Contractor found that one of the substation breakers would not open/close properly. EPC onsite technician working with EPC electrical maintenance leads in Anchorage were able to provide repairs to the breaker so that it could function properly. However, no other maintenance on this breaker or others was performed. Breaker maintenance recommendations are listed in the NFPA 70B, Recommended Practice for Maintaining Safe Electrical Equipment, Annex L. This project is part of the Electrical master Plan.

Project Plan and Funding: Funding for this project will come from the Electric Proprietary Fund.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Electric Proprietary Fund	0	0	0	0	0	0	234,000	0	0	0	0	234,000
Total	0	0	0	0	0	0	234,000	0	0	0	0	234,000

Electrical Distribution Equipment Replacement

Pre-Design:

Engineering:

Construction:

Description: This project consists of funding the purchase of ongoing replacement of electrical distribution system equipment. This equipment consists of electrical switches, section cans, transformers, and cables. Through this project, electrical equipment will also be purchased for new customers and the needed upgrade of existing customer’s electrical services.

Need: Ongoing replacement of the distribution system equipment is necessary in order to maintain the reliability of the distribution system and to protect the assets of the City and ensure the safe distribution of electricity. When this project is funded it will correctly capture and capitalize the expenditures made in keeping the system operational as well as in expanding the system where needed

Project Plan and Funding: Funding for this project will come from the Electrical Proprietary Fund retained earnings.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Electric Proprietary Fund	0	115,000	0	0	0	0	0	0	0	0	0	115,000
Total	0	115,000	0	0	0	0	0	0	0	0	0	115,000

Electrical Intermediate Level Protection Installation

Pre-Design:
2028

Engineering: 2027

Construction:

Description: This project adds protective devices at the major industrial services, including APL and Horizon and at radial taps in the 35 kV system. Vacuum circuit re-closers will be used in order to properly coordinate clearing times in the event of a system disturbance. This will enable the rest of the system to stay on line and remove only the faulted service or radial feeder. Each location will require one recloser with dedicated relay control. The re-closer will also require provisions for communications back to the NPH either via radio link or fiber optic cable if feasible. An updated short circuit study and new protective relay settings will be required in order to properly complete the system coordination work. Engineering and installation of re-closers at five locations are assumed for this project.

Need: The 35 kV system does not have any intermediate level protective devices that would minimize power disruptions to customers. The system is only protected from faults via two main 35 kV re-closers at the powerhouse, two main 35 kV town substation breakers, Alyeska Seafoods re-closer, Westward Seafoods re-closer, Captains Bay Road tap re-closer, and four main 12 kV town substation breakers. Other than primary fusing on customer transformers, there is no coordinated protection scheme currently employed. Some under frequency and under voltage load shed schemes are currently employed in the system but still are limited in their ability to isolate the system in smaller manageable pieces that would minimize disturbances to as few customers as possible. The lack of adequate coordinated protection schemes and apparatus has resulted system wide outages during to a fault or disturbance event most often induced by a single large industrial customer.

Project Plan and Funding: Areas where intermediate level protection apparatus should be incorporated are as follows: 1. Ballyhoo Tap 2. APL 3. Horizon 4. Submarine Crossing 5. Bridge Crossing

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Electric Proprietary Fund	0	0	0	0	0	0	650,000	0	0	0	0	650,000
Total	0	0	0	0	0	0	650,000	0	0	0	0	650,000

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Electric Proprietary Fund	0	0	0	0	650,000	0	0	0	0	0	0	650,000
Total	0	0	0	0	650,000	0	0	0	0	0	0	650,000

Large Transformer Maintenance and Service

Pre-Design: 2024
Construction: 2024

Engineering: 2024

Description: A qualified industry service company who specializes in the maintenance of utility electrical equipment will service all power transformers at the New Power House and Town Substation. Transformers will be assessed and serviced, as required. Transformer assessment includes insulation testing, dissolved gas analysis, sweep frequency response analysis and other tests. After testing is completed, a detailed report indicating condition and test results would be provided along with recommended service maintenance intervals per the relevant industry codes. It is also understood that components on the transformers are failing due to long term exposure to the corrosive environment due to the marine atmosphere. This will necessitate a more thorough repair in order to ensure long term reliability of the power transformers.

Need: The City owns four power transformers at the NPH and two at the Town Substation. Three of the NPH transformers are approximately 12 years old, with the fourth only 3 years old. The transformers at the Town Substation are original from the substation construction approximately 20 years ago. While these transformers should have many more years of service, proper and timely maintenance will help prolong their lives. Testing transformers over a period of many years also allows a utility to develop a baseline for each unit, which in turn can identify a developing problem that may not otherwise be discovered until the transformer fails. Replacement of failing monitoring devices is also critical as these are often the utility's first indication of a problem. The devices can also operate to quickly deenergize a transformer should a more serious condition become present. Without operating protective devices, the utility experiences a higher risk of significant damage if a transformer fails.

Project Plan and Funding: Funding for this project will come from the Electric Proprietary Fund.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Electric Proprietary Fund	0	0	0	195,000	0	0	0	0	0	0	0	195,000
Total	0	0	0	195,000	0	0	0	0	0	0	0	195,000

Makushin Geothermal Project

Pre-Design: 2022
Construction: 2023

Engineering: 2022

Description: This project will fund the City of Unalaska's estimated portion of reliability upgrades required for the City electrical distribution system to accept energy from the Makushin Geothermal Plant. This will require connecting multiple self-generating industrial customers onto the current distribution system, installing more robust intermediate level protections, replacing the aging submarine cable at Illiuliuk Bay, numerous feeder connection and substation upgrades, and improvements and additions to the current SCADA system and

automated controls. Other funds will be set aside for legal and consulting fees associated with implementing the project.

Need: On August 31, 2020, the City entered into a Power Purchase Agreement (PPA) with Ounalashka Corporation / Chena Power. Section 11, Paragraph (c) of this PPA stipulates the City will be responsible for half of the next ten million dollars (\$5,000,000) after the first two million dollar cost of reliability upgrades and distribution additions required to supply energy from the geothermal plant to Unalaska residents and businesses, and the entirety of the interconnection costs beyond 12 million dollars, if required. This project represents a community partnership to bring renewable energy to Unalaska.

Project Plan and Funding: The budget for this project was estimated from required funding commitments outlined in the Power Purchase Agreement. A more accurate budget will be determined upon completion of the Intertie Study currently in progress, and based on Study findings there may be a Phase II project to accomplish the required upgrades. Funding for this project will come from the General Fund.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
General Fund	0	5,720,000	0	0	0	0	0	0	0	0	0	5,720,000
Total	0	5,720,000	0	0	0	0	0	0	0	0	0	5,720,000

Powerhouse Cooling Water Inlet Cleaning and Extension

Pre-Design: 2020
Construction: 2023

Engineering: 2022

Description: This project consists of cleaning the Powerhouse seawater cooling line from the intake to the Powerhouse, and extending the intake to deeper water.

Need: The seawater cooling line for the Powerhouse needs cleaned out every five years due to marine growth inside the line. Due to the seawater temperatures increasing and congestion from local construction, the cooling water intake needs to be lengthened to a deeper location where the water will be colder. An estimated depth of 20 feet is recommended by the Electrical Masterplan.

Project Plan and Funding: The existing pipe runs inside a square concrete utilidor that terminates with a concrete gate support structure. The gate was actually a strainer grate that could be raised and lowered from the support structure for maintenance and cleaning. Only the concrete guides for the gate remain of this system. It is suggested that the gate be replaced at the end of a 200 linear foot pipe extension out into Unalaska Bay. The pipe would be 30 inch pipe and terminate at a -20 foot MLLW. The gate would be constructed of 316 stainless steel and the pipe extension would be constructed of SDR 32.5 (.923 inch wall) HDPE pipe to eliminate the need for corrosion maintenance. The extension would be attached to the gate with a 45° elbow to swing the direction of the pipeline to the north, away from the fuel dock and in the shortest direction to deeper water. The terminus would be connected to a steel box, the top of which would have a removable grate. There would be a flanged connection at the 45° elbow and another flange connection 20 feet from the elbow to allow a removable section for cleaning and maintenance. There would be another flange connection 100 feet from the terminus to facilitate handling in construction. To prevent any movement of the extension pipe or suction box, pairs of short wide flange beam anchors would be driven into the bay. The first set just out from the 20' section, the second pair would be to one side of the center connection, the third pair would be 50 feet from the box and the fourth pair would be driven through guide bars welded to the side of the box. These anchor beams would be 10 feet long of 12" 53 lb./ft. WFB that would be driven approximately 6 feet into the gravel substrate. A heavy chain going over the pipe would be shackled to the beam flanges to prevent excessive vertical movement in the event that air would be trapped in the pipeline. Prior to installation the existing intake pipe would be cleaned again by drawing the cleanout pig through the line, pumping the mud and any debris from the sump and scraping the marine growth from the inside of the concrete gate support structure.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Electric Proprietary Fund	0	40,000	372,662	0	0	0	0	0	0	0	0	412,662
Total	0	40,000	372,662	0	0	0	0	0	0	0	0	412,662

Town Substation SCADA Upgrade

Pre-Design:
2023

Engineering:

Construction:

Description: This project will update the SCADA at the Town Substation. To accomplish this effort, the Town Substation would be updated with the following: • Addition of a station PLC to replace the Real Time Automation Controller (RTAC) and collect SCADA data from all meters and relays. The PLC will calculate metering data. • Addition of a small server which includes VM Ware for development and interfacing with existing substation equipment controls such that substation operation would not rely on the existing wireless communication system. The server will also run the power plant SCADA system Wonderware Intouch application so the HMI will display data from the power plant. • Addition of a thin client (HMI) for local connection and system overview. • Adding port servers and network switches for engineering access to relays and meters to reliably collect event reports and settings.

Need: This project would improve the Town Substation efficiency and reliability. In the past, the Utility has known there have been many issues with the substation communications and moving data, data resolution, lost commands to breakers, and lag in reported data between the powerhouse and the Town Substation. The existing SEL Embedded PC and RTAC at the Town substation are one of the first generation made, and the PC is running a standalone HMI application displaying the substation breakers and transformer data along with control of the breakers. However, these components are nearing the end of their useful life, and will be soon unsupported. Communication between the Powerhouse and the Town Substation is paramount for safe operations, to know the condition and status of the entire utility system for accurate reporting.

Project Plan and Funding:

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Electric Proprietary Fund	0	0	130,000	0	0	0	0	0	0	0	0	130,000
Total	0	0	130,000	0	0	0	0	0	0	0	0	130,000

Wartsila Modicon PLC Replacement

Pre-Design:
2031

Engineering:

Construction:

Description: Through this project the Wartsila Modicon PLC will be upgraded to the GE PACS RX3i controllers, which are the majority of the PLCs on the Utility's electrical SCADA system. Because the new PLCs will be on the same platform, no new PLC software licenses will need to be purchased and additional spare PLC hardware will not be necessary. When the PLCs are reprogrammed, all of the logic shall be unlocked and become the property of the Utility so that Utility personnel can make modifications. The SCADA system human machine interface (HMI) screens will be updated with the new screens and points for the generators. All of the drawings provided by Wartsila for the original controllers

shall be updated with the new controllers and I/O modules. Wartsila did not provide AutoCAD files of the as-built drawings after the construction of the new power plant. All of the Wartsila drawings affecting the PLC's will be converted to AutoCAD.

Need: Schneider Electric's Modicon Quantum PLCs control the Wartsila generators (Units 10 and 11) at the NPH. The PLC models installed are no longer produced and difficult to find the same replacement parts. The Concept PLC software, used to program the Quantum PLCs, is not supported on newer operating systems and the logic in the PLC programs are proprietary and locked, which makes it very difficult to troubleshoot and modify.

Project Plan and Funding: Funding for this project will come from the Electric Proprietary Fund.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Electric Proprietary Fund	0	0	0	0	0	0	0	0	0	0	455,000	455,000
Total	0	0	0	0	0	0	0	0	0	0	455,000	455,000

Fire

Fire Station Remodel

Pre-Design: 2021
Construction: 2024

Engineering: 2022

Description: Remodel existing DPS building after new DPS building is constructed and Police move to new facility.

Need: Constructed in 1987, the present structure is in need to mechanical, architectural, and electrical upgrades. Fire apparatus garage houses EMS supplies, turnout gear, air compressor and gym due to lack of space and creates potential contamination from garage fumes.

Project Plan and Funding: After the Police move to a new facility, the existing structure will be extensively renovated for use by Fire / EMS. Architectural firm JYL produced an initial cost estimate of \$8,970,000 dated February 28, 2020. Funding will come from the General Fund and/or the 1% Capital Projects Fund.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
General Fund	0	0	0	2,000,000	0	0	0	0	0	0	0	2,000,000
Total	0	0	0	2,000,000	0	0	0	0	0	0	0	2,000,000

Fire Training Center

Pre-Design: 2019
Construction: 2024

Engineering: 2023

Description: This project will establish a much needed live fire training facility. The structure will provide residential-like design with a burn room, interior stairs to multiple floors, interior fixed ladder, roof-mounted chop-out curbs, and parapet roof guard with chain opening. This allows for multiple training exercises including hose advancement, fire attack, search & rescue, rappelling,

laddering, confined space, and high-angle rescue operations. The facility may also be used for police use-of-force training exercises, as well as for confined space training. Currently there are no such facilities, for public or private sector organizations, in the City of Unalaska. This facility will also include a “dirty” classroom and a “clean” classroom. These will allow personnel to stay out of the elements while they are instructed on the didactic portion of the lesson.

Need: Firefighters cannot be certified in Alaska without meeting a live fire requirement, to ensure that they experience fighting fires with significant heat and smoke in limited or zero visibility environments. An uncertified volunteer or paid firefighter can respond to a fire, but live fire training and certification ensures that they are prepared, so they don’t panic in a real situation. No such live fire facility exists in Unalaska. Currently, firefighters go off-island for live fire training and certification at a cost of approximately \$30,000 each; the training requires 10-12 weeks and volunteers must take time off from work and/or family commitments in order to attend. The proposed live fire building can be modified for use by the police department to practice active shooter or other use-of-force situations, and can also be used as a confined space rescue training facility by other City departments or private industry. Additionally, this facility could be used as a regional training center for other Aleutian Communities. This Project will also include utilities run the site. Approximately 8000 feet of large diameter water piping and wastewater will be run in the road up to the site. This would equip the site as a training site that could be used by multiple departments in the city.

Project Plan and Funding: Development Plan & Status (Include Permit and Utility Requirements): At present, only a concept plan exists, shown on the right side of this page. The current proposed site is out in the valley by the old chlorine building. There is an opportunity for this site to move up to the current public safety building pending action on the new proposed police station. Cost & Financing Data: All monies will come from the general fund. \$12,000 was previously appropriated for a temporary training structure made from shipping containers. Cost quote for facility in 2018 dollars is \$350,000 plus \$85,000 shipping. The other cost associated with this project would include running electrical and water lines to the site and construction cost for the building. Total budgeted cost is \$1,513,500

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
General Fund	12,000	0	0	1,501,500	0	0	0	0	0	0	0	1,513,500
Total	12,000	0	0	1,501,500	0	0	0	0	0	0	0	1,513,500

Other

Communications Infrastructure (citywide)

Pre-Design: 2021

Engineering: 2022

Construction: 2022

Description: Create a citywide communications infrastructure (underground cable network) between all departments and associated facilities. The Information Systems department currently networks all facilities together using outdoor wireless point to point equipment. These technologies are subject to bandwidth limitations, interference, weather, and significant annual maintenance. As GCI intends to install fiber optic cabling to nearly every facility on the island over the next two years it would be advantageous for the City to install its own underground cable network between its facilities while the ground is open. This will result in a significant increase of network quality (bandwidth, latency, etc.), reliability, and security. This infrastructure would also alleviate hours of internal labor associated with maintaining over 100 existing wireless devices in the field. The underground network would serve all City departments, and all services provided and supported by the Information Systems division, including, but not limited to, SCADA, VoIP (phone system), Security Camera Systems, DR (disaster recovery), Email, GIS, and Network Applications (e.g Munis, Sleuth, RecTrac, Cartograph, Meter Reading Systems, RMS, WatchGuard, etc.).

Burma Road Chapel Kitchen Improvement

Pre-Design: 2024
Construction: 2024

Engineering: 2024

Description: Renovating the kitchen in Burma Road Chapel and making it a commercial kitchen.

Need: We hold many events and programs in that space. Having a commercial kitchen in the building would greatly improve the quality and quantity of programming PCR could offer. In addition, that space is frequently rented for patrons to host parties of many kind. A commercial kitchen would also improve their experience in that space.

Project Plan and Funding:

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
General Fund	0	0	150,000	0	0	0	0	0	0	0	0	150,000
Total	0	0	150,000	0	0	0	0	0	0	0	0	150,000

Community Center Playground Replacement

Pre-Design: 2022
Construction: 2023

Engineering: 2022

Description: New playground equipment is needed to replace the outdated playground equipment in front of the Community Center.

Need: The current play structures are too close to the railing that encloses the playground from the parking lot and sidewalk.

Project Plan and Funding: Planning for the replacement play structures will be done while the Operations Manager is at the National Parks and Recreation Association Conference in the fall of 2021. The project will be funded in FY23.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
General Fund	0	0	0	0	300,000	0	0	0	0	0	0	300,000
Total	0	0	0	0	300,000	0	0	0	0	0	0	300,000

Community Center Technology Upgrades

Pre-Design: 2025
Construction: 2026

Engineering: 2025

Description: Upgrading technology in the Community Center.

Need: As the world increasingly advances in technology and locally Unalaska becomes more connected via better internet access the Community Center will become a place where residents and visitors will seek to connect to these services in increasing ways. In light of this exciting reality the meeting and exercise spaces in the Community Center need upgrades to available technological resources to accommodate this increased demand. Examples of upgrades would include: Projectors and display monitors in the conference room

Gymnasium Floor

Pre-Design:
2025

Engineering: 2024

Construction:

Description: The gymnasium floor was installed when the building was built in 1996 and provides lines for a full size basketball court, volleyball court and badminton court. A replacement floor would include lines for the same sports. The new floor would be made of a synthetic material so it would no longer need to be covered during special events.

Need: The current wooden floor has received a recoat once a year to improve it's appearance and correct any scratches. However, over the past 20 years scratches have become more significant and the floor is beginning to show it's age. A replacement floor would not only provide a better experience for patrons but would also greatly improve staff's ability to deliver quality programming. Currently any special event held in the Community Center requires PCR staff to roll out tarps to protect the gymnasium floor. Those tarps then need to be cleaned and mopped which can take a great deal of time. The planned replacement floor could be mopped and would be cared for much like the Multipurpose Room floor.

Project Plan and Funding: During FY24 PCR staff will identify the floor that best meets the needs for the community. The estimated cost is \$221,000 which means that \$51,000 or 10% is planned to be spent in FY24 for design and scoping. These numbers are WAG numbers and may change as FY24 approaches.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
General Fund	0	0	0	51,000	221,000	0	0	0	0	0	0	272,000
Total	0	0	0	51,000	221,000	0	0	0	0	0	0	272,000

Kelty Field Improvement Project

Pre-Design: 2023

Engineering: 2023

Construction: 2024

Description: Improving the drainage and infield of the softball field.

Need: The outfield no longer drains after a decent amount of rain and is nearly impossible to play softball on. We frequently postpone softball events because the field needs the first summer months to dry as much as possible. Even as late as August and September the field is very damp and unplayable.

Project Plan and Funding:

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
General Fund	0	0	0	100,000	0	0	0	0	0	0	0	100,000
Total	0	0	0	100,000	0	0	0	0	0	0	0	100,000

Kelty Field SW Access

Pre-Design: 2028

Engineering: 2029

Construction: 2028

Description: Providing access to Community Park from the southwest side.

Park Above the Westward Plant

Pre-Design: 2029
Construction: 2030

Engineering: 2029

Description: Creating a city park in the area above Westward Plant.

Need: Park development on west/southwest area of the city above Westward, build a park on city property. The road system and utilities are already in place reducing the costs of construction. It is a natural place of a park serving an under developed area of the city.

Project Plan and Funding:

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
General Fund	0	0	0	0	0	0	0	0	0	3,200,000	0	3,200,000
Total	0	0	0	0	0	0	0	0	0	3,200,000	0	3,200,000

Pool Expansion

Pre-Design: 2029
Construction: 2030

Engineering: 2029

Description: Expanding the pool towards the road in order to provide space for bleachers.

Need: Four years ago we purchased a Colorado Timing System so our Aquatic Center can accommodate larger swim meets. However, the size of our Natatorium is barely able to hold two swim teams and spectators and definitely not comfortable. I am proposing that we expand the Aquatic Center on the south side to allow for bleachers for both spectators and teams and expand on the east side to install a small warm-up cool-down, 2 lane, 15 yard, 3 foot deep pool. This will make our pool competition ready and even open up the possibilities to having Regionals.

Project Plan and Funding:

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
General Fund	0	0	0	0	0	0	0	0	0	2,000,000	0	2,000,000
Total	0	0	0	0	0	0	0	0	0	2,000,000	0	2,000,000

Pump Track

Pre-Design: 2024
Construction: 2025

Engineering: 2024

Description: Installing a pump track next to Kelty Field.

Need: The current Skate Park is old and needs to be replaced. It's had many different paint jobs and rust has made certainly areas dangerous. The police department has discussed a few different areas around the island to build a new police facility and the current location of the Skate Park has been a popular

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Total	0	0	0	0	200,000	0	0	0	0	0	0	200,000

Ports

Entrance Channel Dredging

Pre-Design: 2019
Construction: 2022

Engineering: 2020

Description: This project will remove material from the channel bar that crosses the entrance of Iliuliuk Bay before vessels can enter Dutch Harbor. The dredging will increase the depth of water to accommodate the draft of large vessels transiting the channel and utilizing the Unalaska Marine Center and facilities inside of Dutch Harbor. See attachment for general area of dredge location. The City will work with the Corps of Engineers to help fund, design, construct, and maintain this project. The first step in the process is conducting the biological assessments, understand the impact of dredging to beachfronts inside of the harbor, and working on application with the Corps of Engineers to partner for the dredging. This dredging project will allow deeper draft vessels to enter into Dutch Harbor including tankers, container ships and break-bulk vessels. This project will also reduce delayed arrival and departure of current vessels entering into Dutch Harbor due to storm surge and swell in the channel. The current estimate to be removed is 23,400 CY

Need: Due to a bar that crosses the entrance channel vessels entering the port are limited by their draft rather than their need for services the community can provide. Numerous vessels passing the community cannot enter our port. Depending upon sea conditions the depth under keel for vessels currently utilizing the port can be as little as one meter according to the Alaska Marine Pilots. In storm conditions especially any northerly wind the sea height can make this situation worse by causing vessels to pitch resulting in contact with the sea floor where the bar is located. This represents both a safety concern as well as an economic constraint upon the community. Dredging the entrance channel to a sufficient depth and width would alleviate this problem.

Project Plan and Funding: The City is working through the Cost Benefit Analysis of the project. This is necessary to show the Corps that this project has benefit to the nation and worthy of the Corps of Engineers money and expenses. We continue to move forward with understanding some of the other key pieces of the project that will keep it moving forward efficiently. Some of the pieces will be the biological assessment and impacts of dredging and any impacts dredging may have on the inner harbor. The overall cost is to be evaluated. The City intends on working with the Corps of Engineers to accomplish this project. The immediate funding request is for feasibility and biological information required for the Corps of Engineers applications. We will also need to understand if the change in the contour of the channel entrance as any impact inside the harbor including beachfront.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
General Fund	2,500,000	4,494,500	4,494,500	0	0	0	0	0	0	0	0	11,489,000
Grant	0	13,483,500	13,483,500	0	0	0	0	0	0	0	0	26,967,000
Total	2,500,000	17,978,000	17,978,000	0	0	0	0	0	0	0	0	38,456,000

LCD & UMC Dredging

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Ports Proprietary Fund	0	0	50,000	480,160	0	0	0	0	0	0	0	530,160
Total	0	0	50,000	480,160	0	0	0	0	0	0	0	530,160

Robert Storrs Small Boat Harbor Improvements (A & B Floats)

Pre-Design: 2019
Construction: 2022

Engineering: 2020

Description: This project is an additional phase to the Robert Storrs Float improvement project. It will remove the existing A and B Floats at the Harbor and reconfigure the Harbor to accommodate the new float system ADA gangway and create uplands for parking and a public restroom. It will also include a fire suppression system, electric and year-round water supply to Harbor users and new piling

Need: This project would include replacing the deteriorated floats and reconfiguring the floats and fingers of A and B Floats to include updated electrical systems, lighting, fire suppression, year-round utilities, and an ADA-required gangway. Based on current engineer concepts, a reconfiguration of A and B Floats will at minimum create 30 additional slips plus linear tie options to accommodate part of the 37 vessel waiting list. Reconfiguration will also allow for development of the uplands for a certain amount of required parking and a public restroom. Because the current floats were relocated, they were arranged in the harbor based on the materials at hand and not with consideration to the best use of the basin. In order to accommodate the vessel demand at the Robert Storrs Harbor, reconfiguration of the floats would allow for better use of the basin based on bathymetry and navigational approaches and also allow for additional vessel slips, with minimal fill and no dredging. It will add a significant number of slips for vessels 60' and under. This is an extension of the Robert Storrs Float Replacement Project. C Float is was completed in FY16. As the Float Replacement Project for Robert Storrs is being constructed in phases it was logical to separate the phases into separate project tracking purposes.

Project Plan and Funding: The current estimates place this project at approximately 9.5 million dollars, based on engineers estimates for in kind replacement. We are eligible to apply for a 50% grant through the Alaska Department of Transportation and Public Facilities. 50% of the funding for this is estimated to come out of the Port Net Assets.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Grant	0	3,250,000	0	0	0	0	0	0	0	0	0	3,250,000
Ports Proprietary Fund	650,000	6,045,000	0	0	0	0	0	0	0	0	0	6,695,000
Total	650,000	9,295,000	0	0	0	0	0	0	0	0	0	9,945,000

UMC Cruise Ship Terminal

Pre-Design: 2020
Construction: 2025

Engineering: 2023

Description: This project will design the Unalaska Marine Center Cruise ship terminal. This Terminal will provide an open sheet pile design dock with

mooring dolphins to the South of Unalaska Marine Center Position 7.

Need: Cruise ship activity is on the rise in Unalaska and is proving to be a benefit to local commerce. The cruise ships do not have a place to reserve with certainty as the Unalaska Marine Center is designated for industrial cargo and fishing operations. We have been fortunate to be able to accommodate most of the cruise ship activity, but the passenger count and number of vessel calls is on the rise. With this in mind, a cruise ship terminal would allow for dedicated cruise ship berthing. It would eliminate passengers walking through and around cargo operations. During the off season for cruise ships this facility could be used for fishing vessel offloads. This would allow additional revenue opportunity and still bolster commerce through committed berthing for the cruise ship industry.

Project Plan and Funding: ROM for geotechnical is about \$300 and ROM for design is \$600.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Ports Proprietary Fund	390,000	0	910,000	0	17,290,000	0	0	0	0	0	0	18,590,000
Total	390,000	0	910,000	0	17,290,000	0	0	0	0	0	0	18,590,000

Public Safety

Police Station PS19C

Pre-Design: 2020
Construction: 2023

Engineering: 2021

Description: This project constructs a new modern Public Safety facility on the Skate Park site between the Clinic and City Hall.

Need: Presently, the Department of Public Safety (DPS) structure is unable to safely serve as a modern day Public Safety Complex. The physical structure does not support all the operational needs of the department. Existing facility issues include but are not limited to: ***Inadequate staff support space, undersized staff offices with little privacy; limited interview and observation space; and no locker rooms for uniform changes, post-exposure decontamination, etc. ***Building access restrictions that are required for Police operations constrain volunteer fire-fighter use and activities. ***Detainee entrance is a narrow passage to parking area; emergency responses delayed if prisoners are being unloaded. Undersized booking area crowded and potentially hazardous for staff with unruly prisoners. Evidence drop-off/storage area is remote resulting in chain of custody and security issues. ***Crowded dispatch area provides little security from the public lobby, creating a safety and confidentiality issue. The lobby has seating space for only two people. ***Fire apparatus garage houses EMS supplies, turnout gear, air compressor and gym due to lack of space and creates potential contamination from the garage fumes.

Project Plan and Funding: May 22, 2018: Council funded the DPS Building Assessment project in the amount of \$100,000 via the FY2019 Capital & Operating Budget Ordinance No. 2018-04. December 11, 2018: Council passed Resolution 2018-63 which authorized the City Manager to enter into an agreement with Jensen Yorba Lott, Inc (JYL) to perform the DPS Building Assessment Project for \$97,000. December 11, 2018: Council approved Ordinance 2018-11, which effectively split the Department of Public Safety by creating the Department of Fire and Emergency Medical Services, thereby necessitating the furtherance of the DPS Building Assessment Project. March 12, 2019: Corey Wall, JYL’s Principal Architect, gave a presentation to the Council on the Project’s progress and provided options for remodeling the existing facility as well as possible locations to place a new facility. At the conclusion of the presentation, Council directed staff to investigate the subsurface conditions of the existing Skate Park site as a likely location for a new Police facility. It was agreed that the Skate Park site was prime City owned real estate and a site investigation was warranted regardless of what future development occurred

there. April 23, 2019: Council approved the FY2020-2024 CMMP via Resolution 2019-18. JYL's original scope of work included a functional assessment of the existing DPS facility and to provide schematics for existing building expansion or new construction to serve both Police and Fire needs. The work performed by JYL under their current Agreement is approximately 75% complete. The remaining portion of JYL's work includes a new facility Pre-Design. The Pre-Design cannot be adequately accomplished until the subsurface conditions at the Skate Park site have been evaluated to determine if the DPS Facility can cost-effectively and feasibly be constructed there. The proposed FY20 scope of work for this project includes Site Survey and Geotechnical Investigation per JYL's cost proposal of \$145,061 plus \$43,939 contingency.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
General Fund	0	0	22,090,000	0	0	0	0	0	0	0	0	22,090,000
Total	0	0	22,090,000	0	0	0	0	0	0	0	0	22,090,000

Public Works

Aquatics Center Roof Replacement

Pre-Design: 2023
Construction: 2025

Engineering: 2024

Description: Replace roof fabric on Aquatics Center.

Need: Roof fabric was damaged in a wind storm in 2019 which was subsequently repaired. Shortly thereafter the fabric was seen billowing in the wind. Car tires were placed on the white fabric to hold it down. Leaks have been detected.

Project Plan and Funding: General fund.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Total	0	0	0	0	0	0	0	0	0	0	0	0

Burma Road Chapel Upgrades

Pre-Design: 2020
Construction: 2024

Engineering: 2021

Description: It became evident in 2019 that the PCR side of the Burma Road Chapel was showing signs of rotten siding along the lower portions of the exterior wall. Architect Corey Wall with JYL Architects, who are conducting the DPS Building Assessment Project, crawled under the Burma Road Chapel and took photos of the rim joists. Signs of rot are evident from inside below the building. The original scope of this project removes shingles, roof boards, damaged insulation, installs framing for eave soffit ventilation/increased depth for insulation, installs insulation to R-30, installs new roof boards, re-roofs the building, paints the new eaves and trim. That scope has not changed but the temporary repairs to the roof are holding up remarkably well and additional roof repairs will need to be executed in the future. A more imminent need is the repair of the rotten sill plate, rim joists, and exterior siding on the PCR side of the Burma Rd Chapel.

Need: As noted above in Project Description, the exterior siding, sill plates, and rim joists are showing signs of rot and need to be replaced. Also, the facility

Equipment Storage Building

Pre-Design: 2022
Construction: 2024

Engineering: 2023

Description: Continuous exposure to the elements shortens the life of our rolling stock (dozers, dump trucks, graders, snow plows) and increases maintenance costs. Winter rain & slush build-up freezes on the equipment creating excessive morning prep time clearing hubs, hydraulics, windshields, lights, and back-up horns before equipment can be used. This new building will have a heated slab keeping the temp at approximately 45F to keep equipment thawed out overnight and ready for next day use and/or emergency call-outs.

Need: The new building will improve winter emergency response time. It will expand and upgrade the capabilities of the Public Works facility as a whole. The new storage building will extend the life of trucks, trailers, graders, snow plows, and snow blowers. And, the building will decrease maintenance expense.

Project Plan and Funding: This is in the concept stage only. Land is available on the Public Works compound. A building permit and State Fire Marshall approval will need to be obtained. Project will require a new 1.5 inch water service and a new 6 inch sewer drain along with a new electrical service. Funding will come from the General Fund. Project costs are WAG and esmated to be \$200 per square feet. For the 25,000 square foot building costs are then expect to be in the \$5,000,000 range

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
General Fund	0	195,000	1,350,830	0	0	0	0	0	0	0	0	1,545,830
Total	0	195,000	1,350,830	0	0	0	0	0	0	0	0	1,545,830

HVAC Controls Upgrades - 11 City Buildings

Pre-Design: 2022
Construction: 2022

Engineering: 2022

Description: Controls system upgrades to new N4 platform for 11 City owned buildings.

Need: New N4 upgrades necessary to stay current with technology.

Project Plan and Funding: In FY20, our HVAC controls contractor, Long Building Technologies, gave us an informal no cost quote. In FY22 we will work with Long to refine the scope and get a solid cost estimate. In FY22, Project implementation will occur.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
General Fund	0	433,827	0	0	0	0	0	0	0	0	0	433,827
Total	0	433,827	0	0	0	0	0	0	0	0	0	433,827

High School Exterior Painting

Pre-Design: 2028
Construction: 2028

Engineering: 2028

Description: High School exterior painting.

Need: Harsh weather events cause deterioration of siding and trim necessitating regular maintenance.

Project Plan and Funding: General Fund. Combine this work with City Hall and PCR for economies of scale.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Total	0	0	0	0	0	0	0	0	0	0	0	0

Old Powerhouse Roof Repairs

Pre-Design: 2023
Construction: 2025

Engineering: 2024

Description: Repair cracks in Old Powerhouse roof.

Need: The 6' thick concrete roof on the Old Powerhouse has a few cracks that allow water to seep thru.

Project Plan and Funding: Electric fund.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Total	0	0	0	0	0	0	0	0	0	0	0	0

PCR Exterior Painting

Pre-Design: 2028
Construction: 2028

Engineering: 2028

Description: Paint exterior siding and trim on PCR.

Need: Harsh weather events deteriorate the paint on siding and trim necessitating regular upkeep.

Project Plan and Funding: General fund. Can be combined with City Hall and High School for economies of scale.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Total	0	0	0	0	0	0	0	0	0	0	0	0

Pavement Preservation - Sealcoating

Pre-Design: 2021
Construction: 2022

Engineering: 2021

Rolling Stock Replacement Plan

Pre-Design: 2021
Construction: 2022

Engineering: 2022

Description: Annual City Wide Rolling Stock Replacement Plan.

Need: Annual replacement of vehicles and equipment reaching or beyond their useful life.

Project Plan and Funding: Annually, each Department budgets and allocates for costs associated with vehicle and equipment replacements.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												

Total	0	0	0	0	0	0	0	0	0	0	0	0
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Underground Fuel Tank Removal / Replacement

Pre-Design: 2028
Construction: 2028

Engineering: 2028

Description: Remove the UST (underground storage tank) and replace with an approved above ground fuel oil tank.

Need: UST's are known to rust and begin leaking. UST's are no longer approved and this tank needs to be replaced with an above ground tank with proper leak detection.

Project Plan and Funding: General Fund

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Total	0	0	0	0	0	0	0	0	0	0	0	0

Solid Waste

Oil Separator and Lift Station Replacement

Pre-Design: 2020
Construction: 2022

Engineering: 2020

Description: This project consists of replacing and relocating the oil separator in the underground vault in the Baler Building, upgrading lift station 10.5, replacing associated piping, and upgrading electrical wiring.

Need: When the Baler Building was constructed in 1997, it included an underground concrete vault to collect water and other liquids. The vault serves as a sump and houses an oil separator. Over the years, the oil separator has become worn and has now failed. It's underground location makes it exceptionally difficult and unsafe to service and maintain. Drain lines to the sump and oil

Wastewater

Scum Decant Tank Wet Well Improvements

Pre-Design:
2028

Engineering: 2027

Construction:

Description: This project will evaluate solutions to prevent the grease from entering the scum decant tank with such force. This CMMP item includes the costs for an engineering evaluation and implementation of the improvements.

Need: At times, there can be large mats of accumulated grease in the clarifier. While skimming, the water/grease mixture is directed down the clarifier drainpipe to the scum decant tank. As the water/grease mixture cascades into the scum decant tank, the grease re-suspends into the water. This allows the grease to flow under the baffle, with the water into the tank drain to the lift station. The grease then congeals and becomes a maintenance challenge for the lift station.

Project Plan and Funding: The budget for this project was estimated from the Water Master Plan and is a WAG at this point in the process. A more accurate budget will be determined during the design phase of the project. Funding for this project will come from the Wastewater Proprietary Fund.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Wastewater Proprietary Fund	0	0	0	0	0	0	50,000	145,500	0	0	0	195,500
Total	0	0	0	0	0	0	50,000	145,500	0	0	0	195,500

Wastewater Clarifier Baffling Improvements

Pre-Design:
2030

Engineering: 2029

Construction:

Description: This project involves the engineering to evaluate and installing potential improvements to the two WWTP clarifiers. The evaluation should include a review of the record drawings, a site tour of the plant, and an evaluation of alternatives to optimize the configuration of the clarifiers.

Need: After screening, the wastewater is rapidly mixed with a coagulant and polymer to improve the settling process in the clarifier. The wastewater in the first clarifier portion is clear and settles well. As the wastewater effluent goes under the clarifier baffle wall at the discharge end, the water quality degrades by becoming turbid. It is presumed that the settled sludge is carried downstream to the chlorine contact tanks, where it settles. This is very inefficient and requires the operators to clean the tank at least twice a month to prevent excessive sludge buildup. The stirred sludge also requires more chlorine for disinfection and, as a result, more sodium bisulfate for dechlorinating. Significant benefit will be realized in both labor and chemical costs if the clarifier's performance is improved.

Project Plan and Funding: The budget for this project was estimated from the Wastewater Master Plan and is a WAG at this point in the process. A more accurate budget will be determined during the design phase of the project. Funding for this project will come from the Wastewater Proprietary Fund.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Wastewater Proprietary Fund	0	0	0	0	0	0	0	0	50,000	275,000	0	325,000
Total	0	0	0	0	0	0	0	0	50,000	275,000	0	325,000

Wastewater Sludge Pump Check Valve Replacement

Pre-Design:
2026

Engineering: 2025

Construction:

Description: This project would include purchase and installation of back-pressure valves to replace the existing check valves in the system.

Need: When the sludge flocculator starts, the discharge valve positions are opened and closed several times, and plant staff verifies that the valve position is closed upon operation. If the valves are left open, the contents of the solids storage tank can drain to the influent pump station. The WWTP staff are careful to set the valves to the appropriate position. Several options were evaluated by the City’s WWTP design consultant and it was determined that replacing the sludge pump check valves with backpressure valves was the best option. This would prevent the sludge from getting past the Penn Valley sludge pumps and exiting the plant if the valve is accidentally left open. Proposed for FY25 – FY26

Project Plan and Funding: The budget for this project was estimated from the Wastewater Master Plan and is a WAG at this point in the process. A more accurate budget will be determined during the design phase of the project. Funding for this project will come from the Wastewater Proprietary Fund.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Wastewater Proprietary Fund	0	0	0	0	20,000	71,000	0	0	0	0	0	91,000
Total	0	0	0	0	20,000	71,000	0	0	0	0	0	91,000

Water

Biorca Drive Cast Iron Waterline Replacement

Pre-Design: 2028

Engineering: 2028

Construction: 2029

Description: This project will replace approximately 600 linear feet of cast iron pipe segment under Biorca Drive with ductile iron. The replacement of this pipe was designed already by Regan Engineering, but the project was dropped when paving of Biorca Drive, which was the driving factor, was shelved.

Need: This section of water pipe was installed in the 1940’s with cast iron pipe, the last section of cast iron pipe in Unalaska’s water system. This line has been repaired in the past and has been in service longer than its life expectancy. Cast iron is a brittle material that is also susceptible to corrosion. Cast iron pipe often fails catastrophically when subjected to excessive pressure surge or ground movement. Pipe failure becomes more frequent with a cast iron pipe as it ages and loses wall thickness to corrosion. Emergency repairs after an unexpected catastrophic pipe failure are usually many times more expensive than proactive pipe replacement due to incidental damage, overtime, lack of in-stock repair materials, and general disruption of utility operations. Preventative replacement of pipes with high failure risks is a good practice in order to avoid the more costly emergency repair situation brought by a pipe failure.

Project Plan and Funding: The budget for this project was estimated from the Water Master Plan and is a WAG at this point in the process. A more accurate budget will be determined during the design phase of the project. Funding for this project will come from the Water Proprietary Fund. Total cost for this project is estimated at \$396,500.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Water Proprietary Fund	0	0	0	0	0	0	0	396,500	0	0	0	396,500
Total	0	0	0	0	0	0	0	396,500	0	0	0	396,500

CT Tank Interior Maintenance and Painting

Pre-Design: 2020
Construction: 2022

Engineering: 2020

Description: This project is to paint and perform other maintenance to the inside of the Pyramid CT Tank. The work will be performed in two phases. The coatings on the ceiling are deteriorating at a rate to meet its predicted life span of 20-25 years. Small sections of coatings are beginning to drop into the water in the tank. The floor has problems with pitting that needs to be dealt with immediately. In some locations the pitting is believed to exceed ½ of the thickness of the steel plate. If left in its current condition, the tank floor will likely be leaking in 2-3 years. In 5-7 years, large sections of the ceiling coatings will be dropping into the water and could plug the tank discharge holes or break up and travel through the distribution system and into customers' services. Shortly after, structural damage will begin to occur. This tank can be kept in good reasonable service for many years to come, with the proper maintenance including painting, for a fraction of the cost of a new tank. Adding a new CT Tank may however, be the best option to provide for the ability to maintain this existing CT Tank

Need: The Pyramid CT Tank was originally constructed in 1993. The tank has been drained every 3-5 years for cleaning and/or inspection over the past 10 years. It takes from 200-300 man hours over a 7-10 day period to drain, clean and inspect the tank. The tank has never been completely de-watered. Because of the length of time and type of equipment available to do the work, and the configuration of the tank, complete de-watering has not been practical. Historically, water tanks in this area have had to have the exteriors re-coated every 15-25 years. The CT Tank roof was painted with a finish coat in 2008 after a failed attempt to replace the wind damaged foam insulation in 2000. Anodes were added in 2004 to help slow the rate of corrosion to the inside of the tank. Total cost for maintenance has averaged about \$25,000.00-\$30,000.00 per year.

Project Plan and Funding: Building a second CT Tank was the designed and intended path to take when the original CT Tank was built. It provides the redundancy required in the treatment process to maintain Filtration Avoidance status. It also directly addresses the operational function issues associated with maintaining each tank

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Water Proprietary Fund	100,000	953,000	0	0	0	0	0	0	0	0	0	1,053,000
Total	100,000	953,000	0	0	0	0	0	0	0	0	0	1,053,000

East Point Crossing Water Line Inspection

Pre-Design: 2023
Construction: 2023

Engineering: 2023

Description: This project consists of the inspection of the water line crossing from East Point Road to West Broadway Avenue. This underwater pipe crossing

to Amaknak Island at East Point is a 12-inch ductile iron pipe installed in 1977. HDR recommends the “See Snake” system inspection for this water line due to its invasive approach to pipe inspections. PICA Corporation’s See Snake system is the only insertion type tool that HDR was able to identify that offers pipe wall condition assessment capability in a 12-inch pipe application. See Snake is a device that uses an electromagnetic Remote Field Technology to measure wall thickness and detect internal and external flaws as it moves through a pipe. See Snake can also detect and locate external stress on a pipe due to soil movement, bridging, inadequate support, rippling, or denting.

Need: The East Point Crossing pipe is one of only two water system connections to Amaknak Island. Should this pipe ever fail, especially during processing season, the consequences could be a shutdown of all water service to Amaknak Island for a short time until the break can be located and isolated. Flow of water to Amaknak Island could be restricted for a period of at least several weeks while waiting for the pipe to be repaired by divers or a new pipe installed. If the break occurs under the Alyeska Seafoods facility the washout from the flow could cause structural damage to buildings. Given the criticality, age, and seawater exposure of this pipe, action is recommended to perform condition assessment and/or replace the pipe.

Project Plan and Funding: The budget for this project was estimated from the Water Master Plan and is a WAG at this point in the process. A more accurate budget will be determined during the design phase of the project. Funding for this project will come from the Water proprietary Fund.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Water Proprietary Fund	0	0	162,500	0	0	0	0	0	0	0	0	162,500
Total	0	0	162,500	0	0	0	0	0	0	0	0	162,500

Icy Lake Capacity Increase & Snow Basin Diversion

Pre-Design: 2031

Engineering:

Construction:

Description: This project will increase the height of the existing dam on the north side of Icy Lake and construct a new dam on the south end of Icy Lake. As described in the 2006 Golderletter the project includes the following: The existing sheet pile dam at the north end of the lake would be raised 5 feet and the dam length increased from 67 to 98 feet. A new sheet pile dam, approximately 6 feet tall by 193 feet long would be built at the south end of the lake. Additional grading and riprap would be required for a larger spillway apron at the north dam. Riprap would be required for wave erosion protection of the south dam. Grouting at the north and south dams would be required to seal fractured bedrock.

Need: Additional raw water storage capacity at Icy Lake would be beneficial to help span processing seasons that occur during the more prolonged and frequent dry weather periods. Water system operators use the lake to “bank” surplus water between processing seasons when demand is low, with the intent that by the beginning of a processing season the utility is starting out with a full lake. During heavy processing the lake level gradually drops as demands exceed the combined capacity of Icy Creek and the wells and operators release lake water into Icy Creek. This operational strategy has been stressed in recent years when dry weather coincides with processing seasons and the lake is drawn nearly empty. If the lake is run empty and the water system is not able to meet demands, then the result would be water rationing and having to reduce fish processing throughput or diverting fish to processors in other communities.

Project Plan and Funding: The budget for this project was estimated from the Water Master Plan and is a WAG at this point in the process. A more accurate budget will be determined during the design phase of the project. Funding for this project will come from the Proprietary Fund and State Grants.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Water Proprietary Fund	0	0	0	0	0	0	0	0	0	0	2,860,000	2,860,000
Total	0	0	0	0	0	0	0	0	0	0	2,860,000	2,860,000

Icy Lake Hydrographic Survey

Pre-Design: 2024
Construction: 2024

Engineering: 2024

Description: This project consists of surveying Icy Lake reservoir. The survey effort would include a topographic survey of the shoreline and shallow areas around the lake. A water resources engineer will determine the precise stage-storage (Depth and Volume) relationship and curve would analyze the hydrographic and topographic survey results. The stage-storage curve should allow operators to be able to quickly determine the exact volume of available water at various water surface elevations. The stage-storage relationship could also be added to the utility SCADA system so that the SCADA system automatically calculates and displays the volume of available water in the lake in real-time.

Need: Icy Lake provides impounded raw water storage for Unalaska and is used during periods of low water and/or significant demand. The Lake is impounded behind a sheet pile dam at its outlet. Water from the lake is released with a remote controlled valve at the sheet pile dam when needed to fill the Icy Creek Reservoir. The exact volume of the lake is unknown but estimates range from between 52 MG and 61 MG, with a volume of 57 MG at the spillway elevation. Without accurate bathymetry of the lake bottom, the Utility must estimate stage-storage of the lake in order to know how much available water remains in the lake at any given water surface elevation. If the Utility is overly conservative with the estimate of water remaining, then the result could be premature water rationing, causing negative effects on utility customers, especially the fish processors. If the Utility overestimates how much water remains, then the result could be running out of water sooner than expected. An accurate hydrographic survey of the lake could allow the Utility to precisely determine the available water in the lake and more effectively manage water supplies. Proposed for FY24.

Project Plan and Funding: The budget for this project was estimated from the Water Master Plan and is a WAG at this point in the process. A more accurate budget will be determined during the design phase of the project. The funding for this project will come from the Proprietary Fund.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Water Proprietary Fund	0	0	0	72,800	0	0	0	0	0	0	0	72,800
Total	0	0	0	72,800	0	0	0	0	0	0	0	72,800

Icy Lake Road Reconstruction

Pre-Design: 2022
Construction: 2023

Engineering: 2022

Description: Phase 1 Site Survey: This project will hire a land surveyor to conduct a site survey of the Icy Creek Valley from the existing Icy Creek Reservoir to Icy Lake & Dam. A civil engineer will be hired to put together

Pyramid Water Storage Tank

Pre-Design: 2014
Construction: 2024

Engineering: 2023

Description: This project will construct a second 2.6 million gallon Chlorine Contact Tank (CT Tank) next to the existing CT Tank. It will provide much needed clear water storage and enable maintenance to be done on the interior of either tank regardless of process seasons or weather. The project will require the installation of approximately 200 ft. of 16” DI water main, 200 ft. of 8” DI drain line, and 100 ft. each of 1” sample line and control wiring

Need: Additional storage provided by this tank will help to meet many of the issues mentioned in the 2004 Water Master Plan. Even in the Water Distribution System’s current configuration, this new tank will provide an additional 960,000 gallons of the additional 4 MG of finished water storage recommended in the Master Plan. When planned future development is completed on Captain’s Bay Road, over 2.2 MG of water storage will be available at the maximum Pyramid Water Treatment Plant capacity of 9 MGD. The additional storage will provide a much needed buffer, allowing time to troubleshoot and repair problems in the event of an equipment failure or system malfunction. It will reduce the likelihood of water shortages and/or outages during the Pollock Processing seasons. Additional benefits include: □ Reduce service interruption, boil water notices, and risk of system contamination during maintenance. □ Allow routine maintenance to be done on the interior or exterior of either tank during any season, prolonging the life of these tanks. □ Expand and upgrade both the water treatment and distribution systems, using the full 9 MGD design capacity of the new water treatment plant will be possible. □ Improve the flow characteristics of the new Pyramid Water Treatment Plant. Plant operators will be able to allow the tanks to absorb the high and low flows, maintaining a more stabilized treatment process and allowing the new Ultra Violate treatment process to operate more efficiently.

Project Plan and Funding: A "Certificate to Construct" and a "Certificate to Operate" are required from ADEC, obtained through application by the designing engineer.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Water Proprietary Fund	625,000	0	603,750	7,906,193	0	0	0	0	0	0	0	9,134,943
Total	625,000	0	603,750	7,906,193	0	0	0	0	0	0	0	9,134,943

Pyramid Water Treatment Plant Chlorine Upgrade

Pre-Design: 2021
Construction: 2022

Engineering: 2021

Description: This project in the Pyramid Water Treatment Plant (PWTP) will include the removal of the existing Chlorine Gas system and the installation of an on-site system which generates liquid Chlorine (Sodium Hypochlorite) using salt and electricity.

Need: Using stringent regulations, the EPA is doing away with Chlorine Gas as the primary method of disinfecting potable water. Vendors for Chlorine Gas are becoming scarce as most Water Treatment Plants and other users have already changed over to an alternative. There are only two remaining Chlorine Gas vendors located on or near the west coast which will ship to Alaska. We are currently using the vendor who is located on the coast. We have experienced issues with their product. If we continue to have issues with Chlorine Gas from them or they quit carrying Chlorine Gas altogether, the remaining vendor is twice the price due to the extra cost involved in shipping the Chlorine Gas to the coast. In addition, potable water treated with Chlorine Gas is more acidic than

Sodium Hypochlorite. Combined with the rise in EPA’s standards, there is a very high possibility that we will be required to perform a corrosion control study and begin adding a corrosion control inhibitor to our potable water. Switching to Sodium Hypochlorite will help lower the acid index of our drinking water. This will lessen the possibility of having to perform the study or add an inhibitor. In addition, the multiple safety items associated with Chlorine Gas that we are required to own are very expensive, highly regulated and take a significant amount of time to maintain.

Project Plan and Funding: Development Plan & Status (Include Permit and Utility Requirements): This project will require a consultant for design and engineering to obtain Alaska Department of Environmental Conservation (ADEC) approval. A contractor will be needed for construction. Cost & Financing Data: A ROM for this project would be \$500,000 – \$750,000. This number could be reduced if the existing crane, Chlorine Gas Bay, etc. in the PWTP can be utilized with the new system. The existing PWTP Chlorine Gas Bay is believed to be of sufficient size to house the new Sodium Hypochlorite equipment. However, a heated area for salt storage will be required. It would be most efficient to have the salt storage area as part of the existing PWTP structure. Doing so would require an addition to the current building.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Water Proprietary Fund	0	881,500	0	0	0	0	0	0	0	0	0	881,500
Total	0	881,500	0	0	0	0	0	0	0	0	0	881,500

Sediment Traps Between Icy Lake and Icy Creek Reservoir

Pre-Design: 2026

Engineering: 2026

Construction: 2027

Description: This project consists of constructing one or more sediment traps in Icy Creek upstream of the reservoir. The sediment trap system should essentially be a series of deep, wide step pools with rock check dams along the creek that decrease the flow velocity and allow rocks and sediment to settle out. The sediment traps should also create a location for rocks and sediment to accumulate that would be easier for heavy equipment to access, easier to clean out, and potentially allow the reservoir and Pyramid WTP to remain in service while the upstream sediment traps are being cleaned. Although the sediment traps will not eliminate shutdown of the Pyramid WTP due to turbidity spikes during high flow events, it could reduce the occurrence and duration of shutdowns.

Need: Large amounts of rock and sediment move downstream along Icy Creek during high flow events. The rocks accumulate at the inlet end of the Icy Creek Reservoir as seen in Figure 30 and heavier sediment accumulates behind the dam. The rocks and sediment reduce the capacity of the reservoir. Draining of the reservoir and removal of rocks and sediment is a challenging exercise that is required periodically and also requires a lengthy shutdown of the Pyramid WTP. Turbidity issues due to suspended fine-grained sediments during high flow events also regularly cause shutdown of the Pyramid Water Treatment Plant.

Project Plan and Funding: The budget for this project was estimated from the Water Master Plan and is a WAG at this point in the process. A more accurate budget will be determined during the design phase of the project. Funding for this Project will come from the Water Proprietary Fund.

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Water Proprietary Fund	0	0	0	0	0	650,000	0	0	0	0	0	650,000

Year	Appropriated Funds	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	Total
Source												
Total	0	0	0	0	0	650,000	0	0	0	0	0	650,000

Requested Funds	Year						
	2022 General	2022 Grant	2022 Proprietary	2022 Total	2023 General	2023 Grant	2023 Proprietary
Electric	\$5,720,000		\$4,264,938	\$9,984,938			\$1,372,662
34.5 kV Submarine Cable Replacement			\$60,000	\$60,000			\$120,000
Electric Energy Storage System			\$3,549,938	\$3,549,938			
Electrical Breakers Maintenance and Service							
Electrical Distribution Equipment Replacement			\$115,000	\$115,000			
Electrical Intermediate Level Protection Installation							
Generator Sets Rebuild			\$500,000	\$500,000			\$750,000
Install New 4 Way Switch at Town Substation							
Large Transformer Maintenance and Service							
Makushin Geothermal Project	\$5,720,000			\$5,720,000			
Powerhouse Cooling Water Inlet Cleaning and Extension			\$40,000	\$40,000			\$372,662
Town Substation SCADA Upgrade							\$130,000
Wartsila Modicon PLC Replacement							
Fire							
Fire Station Remodel							
Fire Training Center							
Other	\$2,570,324			\$2,570,324			
Communications Infrastructure (citywide)	\$2,570,324			\$2,570,324			
PCR	\$30,000			\$30,000	\$230,000		
Aquatics Center Mezzanine and Office Space Expansion					\$80,000		
Burma Road Chapel Kitchen Improvement					\$150,000		
Community Center Playground Replacement							
Community Center Technology Upgrades							
Community Park Replacement Playground							
Cybex Room Replacement							
Gymnasium Floor							
Kelty Field Improvement Project							
Kelty Field SW Access							
Kiddie Pool/Splash Pad							
Library Outdoor Patio	\$30,000			\$30,000			
Library Rear Parking							
Multipurpose Facility							
Park Above the Westward Plant							
Pool Expansion							
Pump Track							
Rebar Restoration and Re-plastering							
Repairing the Library Parking Entrance							
Spa							
Planning							
Unalaska Public Transportation Study							
Ports	\$4,494,500	\$16,733,500	\$6,045,000	\$27,273,000	\$4,494,500	\$13,483,500	\$3,504,495
Entrance Channel Dredging	\$4,494,500	\$13,483,500		\$17,978,000	\$4,494,500	\$13,483,500	
LCD & UMC Dredging							\$2,544,495
Restroom Unalaska Marine Center							\$50,000
Robert Storrs Small Boat Harbor Improvements (A & B Floats)		\$3,250,000	\$6,045,000	\$9,295,000			
UMC Cruise Ship Terminal							\$910,000
Public Safety					\$22,090,000		
Police Station PS19C					\$22,090,000		
Public Works	\$778,827			\$778,827	\$11,328,580	\$12,977,750	\$3,000,000
Burma Road Chapel Upgrades							
Captains Bay Road & Utility Improvements					\$9,977,750	\$12,977,750	\$3,000,000
DPW Inventory Room - High Capacity Shelving	\$150,000			\$150,000			
Equipment Storage Building	\$195,000			\$195,000	\$1,350,830		
HVAC Controls Upgrades - 11 City Buildings	\$433,827			\$433,827			
Public Trails System							
Solid Waste			\$1,171,100	\$1,171,100			\$400,000
Oil Separator and Lift Station Replacement			\$971,100	\$971,100			
Solid Waste Gasifier			\$200,000	\$200,000			\$400,000
Wastewater							
Scum Decant Tank Wet Well Improvements							
Wastewater Clarifier Baffling Improvements							
Wastewater Sludge Pump Check Valve Replacement							
Water			\$2,034,500	\$2,034,500			\$1,966,250
Biorka Drive Cast Iron Waterline Replacement							
CT Tank Interior Maintenance and Painting			\$953,000	\$953,000			
East Point Crossing Water Line Inspection							\$162,500
Icy Lake Capacity Increase & Snow Basin Diversion							
Icy Lake Hydrographic Survey							
Icy Lake Road Reconstruction			\$100,000	\$100,000			\$1,200,000
Installation of Meter and Booster Pump at Agnes Beach PRV Station							
Mainline and Service Valve Maintenance Program			\$100,000	\$100,000			
Pyramid Water Storage Tank							\$603,750
Pyramid Water Treatment Plant Chlorine Upgrade			\$881,500	\$881,500			
Sediment Traps Between Icy Lake and Icy Creek Reservoir							
Requested Total	\$13,593,651	\$16,733,500	\$13,515,538	\$43,842,689	\$38,143,080	\$26,461,250	\$10,243,407

2023 Total	2024		2024 Total	2025		2025 Total	2026		2026 Total	2027	2027 Total	2028
	General	Proprietary		General	Proprietary		General	Proprietary		Proprietary		General
\$1,372,662		\$3,355,000	\$3,355,000		\$1,150,000	\$1,150,000				\$884,000	\$884,000	
\$120,000		\$2,160,000	\$2,160,000									
										\$234,000	\$234,000	
										\$650,000	\$650,000	
\$750,000		\$1,000,000	\$1,000,000		\$500,000	\$500,000						
					\$650,000	\$650,000						
		\$195,000	\$195,000									
\$372,662												
\$130,000												
	\$3,501,500		\$3,501,500									
	\$2,000,000		\$2,000,000									
	\$1,501,500		\$1,501,500									
\$230,000	\$1,638,900		\$1,638,900	\$5,777,100		\$5,777,100	\$330,000		\$330,000			\$500,000
\$80,000	\$850,000		\$850,000									
\$150,000												
				\$300,000		\$300,000						
							\$80,000		\$80,000			
												\$500,000
	\$75,000		\$75,000									
	\$51,000		\$51,000	\$221,000		\$221,000						
	\$100,000		\$100,000									
				\$50,000		\$50,000						
	\$562,900		\$562,900	\$5,066,100		\$5,066,100						
				\$100,000		\$100,000						
							\$250,000		\$250,000			
				\$40,000		\$40,000						
				\$200,000		\$200,000						
				\$200,000		\$200,000						
\$21,482,495		\$480,160	\$480,160		\$17,290,000	\$17,290,000						
\$17,978,000												
\$2,544,495												
\$50,000		\$480,160	\$480,160									
\$910,000					\$17,290,000	\$17,290,000						
\$22,090,000												
\$22,090,000												
\$27,306,330	\$10,456,750	\$3,000,000	\$13,456,750	\$10,077,750	\$3,000,000	\$13,077,750						
	\$479,000		\$479,000									
\$25,955,500	\$9,977,750	\$3,000,000	\$12,977,750	\$9,977,750	\$3,000,000	\$12,977,750						
\$1,350,830												
				\$100,000		\$100,000						
\$400,000						\$7,620,000			\$7,620,000			
\$400,000						\$7,620,000			\$7,620,000			
						\$20,000		\$71,000	\$71,000	\$50,000	\$50,000	
										\$50,000	\$50,000	
						\$20,000		\$71,000	\$71,000			
\$1,966,250		\$7,978,993	\$7,978,993					\$650,000	\$650,000			
\$162,500												
		\$72,800	\$72,800									
\$1,200,000												
\$603,750		\$7,906,193	\$7,906,193									
								\$650,000	\$650,000			
\$74,847,737	\$15,597,150	\$14,814,153	\$30,411,303	\$16,054,850	\$29,080,000	\$45,134,850	\$330,000	\$721,000	\$1,051,000	\$934,000	\$934,000	\$500,000

2028 Proprietary	2028 Total	2029 General	2029 Proprietary	2029 Total	2030 General	2030 Proprietary	2030 Total	2031 Proprietary	2031 Total	Requested Total	Appropriate Grand Total	
								\$455,000	\$455,000	\$17,201,600	\$650,062	\$17,851,662
										\$2,340,000		\$2,340,000
										\$3,549,938	\$650,062	\$4,200,000
										\$234,000		\$234,000
										\$115,000		\$115,000
										\$650,000		\$650,000
										\$2,750,000		\$2,750,000
										\$650,000		\$650,000
										\$195,000		\$195,000
										\$5,720,000		\$5,720,000
										\$412,662		\$412,662
										\$130,000		\$130,000
								\$455,000	\$455,000	\$455,000		\$455,000
										\$3,501,500	\$12,000	\$3,513,500
										\$2,000,000		\$2,000,000
										\$1,501,500	\$12,000	\$1,513,500
										\$2,570,324		\$2,570,324
										\$2,570,324		\$2,570,324
	\$500,000	\$500,000		\$500,000	\$5,900,000		\$5,900,000			\$14,906,000		\$14,906,000
										\$930,000		\$930,000
										\$150,000		\$150,000
										\$300,000		\$300,000
										\$80,000		\$80,000
	\$500,000									\$500,000		\$500,000
										\$75,000		\$75,000
										\$272,000		\$272,000
										\$100,000		\$100,000
		\$500,000		\$500,000						\$500,000		\$500,000
					\$500,000		\$500,000			\$500,000		\$500,000
										\$30,000		\$30,000
										\$50,000		\$50,000
										\$5,629,000		\$5,629,000
					\$3,200,000		\$3,200,000			\$3,200,000		\$3,200,000
					\$2,000,000		\$2,000,000			\$2,000,000		\$2,000,000
										\$100,000		\$100,000
										\$250,000		\$250,000
										\$40,000		\$40,000
					\$200,000		\$200,000			\$200,000		\$200,000
										\$200,000		\$200,000
										\$200,000		\$200,000
										\$66,525,655	\$3,649,650	\$70,175,305
										\$35,956,000	\$2,500,000	\$38,456,000
										\$2,544,495	\$109,650	\$2,654,145
										\$530,160		\$530,160
										\$9,295,000	\$650,000	\$9,945,000
										\$18,200,000	\$390,000	\$18,590,000
										\$22,090,000		\$22,090,000
										\$22,090,000		\$22,090,000
										\$54,619,657	\$2,010,000	\$56,629,657
										\$479,000	\$10,000	\$489,000
										\$51,911,000	\$2,000,000	\$53,911,000
										\$150,000		\$150,000
										\$1,545,830		\$1,545,830
										\$433,827		\$433,827
										\$100,000		\$100,000
										\$9,191,100		\$9,191,100
										\$971,100		\$971,100
										\$8,220,000		\$8,220,000
\$145,500	\$145,500		\$50,000	\$50,000		\$275,000	\$275,000			\$611,500		\$611,500
\$145,500	\$145,500									\$195,500		\$195,500
			\$50,000	\$50,000		\$275,000	\$275,000			\$325,000		\$325,000
										\$91,000		\$91,000
\$396,500	\$396,500		\$70,000	\$70,000		\$320,000	\$320,000	\$2,860,000	\$2,860,000	\$16,276,243	\$725,000	\$17,001,243
\$396,500	\$396,500									\$396,500		\$396,500
										\$953,000	\$100,000	\$1,053,000
										\$162,500		\$162,500
								\$2,860,000	\$2,860,000	\$2,860,000		\$2,860,000
										\$72,800		\$72,800
										\$1,300,000		\$1,300,000
			\$70,000	\$70,000		\$320,000	\$320,000			\$390,000		\$390,000
										\$100,000		\$100,000
										\$8,509,943	\$625,000	\$9,134,943
										\$881,500		\$881,500
										\$650,000		\$650,000
\$542,000	\$1,042,000	\$500,000	\$120,000	\$620,000	\$5,900,000	\$595,000	\$6,495,000	\$3,315,000	\$3,315,000	\$207,693,579	\$7,046,712	\$214,740,291

Ranking Table

Department	Project Name	Total
Ports	Entrance Channel Dredging	62.9
Ports	Robert Storrs Small Boat Harbor Improvements (A & B Floats)	55.0
Water	Icy Lake Road Reconstruction	46.3
Water	CT Tank Interior Maintenance and Painting	44.5
Electric	Generator Sets Rebuild	43.6
Public Works	Equipment Storage Building	42.6
Electric	Electric Energy Storage System	38.9
Solid Waste	Solid Waste Gasifier	35.3
Water	Pyramid Water Treatment Plant Chlorine Upgrade	35.1
Electric	Powerhouse Cooling Water Inlet Cleaning and Extension	34.7
Electric	34.5 kV Submarine Cable Replacement	32.6
Electric	Makushin Geothermal Project	30.3
Solid Waste	Oil Separator and Lift Station Replacement	28.7
Water	Mainline and Service Valve Maintenance Program	27.8
Public Works	HVAC Controls Upgrades - 11 City Buildings	26.7
Other	Communications Infrastructure (citywide)	24.8
Electric	Electrical Distribution Equipment Replacement	21.0
Public Works	DPW Inventory Room - High Capacity Shelving	19.0

Department	Name	Pre Design			Engineering			Construction			
		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Electric	34.5 kV Submarine Cable Replacement										
	Electric Energy Storage System										
	Electrical Breakers Maintenance and Service										
	Electrical Distribution Equipment Replacement										
	Electrical Intermediate Level Protection Installation										
	Generator Sets Rebuild										
	Install New 4 Way Switch at Town Substation										
	Large Transformer Maintenance and Service										
	Makushin Geothermal Project										
	Powerhouse Cooling Water Inlet Cleaning and Extension										
	Town Substation SCADA Upgrade										
	Wartsila Modicon PLC Replacement										
Fire	Fire Station Remodel										
	Fire Training Center										
Other	Communications Infrastructure (citywide)										
PCR	Aquatics Center Mezzanine and Office Space Expansion										
	Burma Road Chapel Kitchen Improvement										
	Community Center Playground Replacement										
	Community Center Technology Upgrades										
	Community Park Replacement Playground										
	Cybox Room Replacement										
	Gymnasium Floor										
	Kelty Field Improvement Project										
	Kelty Field SW Access										
	Kiddie Pool/Splash Pad										
	Library Outdoor Patio										
	Library Rear Parking										
	Multipurpose Facility										
	Park Above the Westward Plant										
	Pool Expansion										
	Pump Track										
	Rebar Restoration and Re-plastering										
	Repairing the Library Parking Entrance										
Spa											
Planning	Unalaska Public Transportation Study										
Ports	Entrance Channel Dredging										
	LCD & UMC Dredging										
	Restroom Unalaska Marine Center										
	Robert Storrs Small Boat Harbor Improvements (A & B Floats)										
	UMC Cruise Ship Terminal										
Public Safety	Police Station PS19C										
Public Works	Aquatics Center Roof Replacement										
	Burma Road Chapel Upgrades										
	Captains Bay Road & Utility Improvements										
	City Hall Exterior Painting										
	DPW Inventory Room - High Capacity Shelving										
	DPW Paint Booth / Body Shop										
	DPW/U Roof Replacement										
	DPW/U Warehouse Roof Replacement										
	Equipment Storage Building										
	HVAC Controls Upgrades - 11 City Buildings										
	High School Exterior Painting										
	Old Powerhouse Roof Repairs										
	PCR Exterior Painting										
	Pavement Preservation - Sealcoating										
	Public Trails System										
	Rolling Stock Replacement Plan										
	Underground Fuel Tank Removal / Replacement										
	Solid Waste	Oil Separator and Lift Station Replacement									
Solid Waste Gasifier											
Wastewater	Scum Decant Tank Wet Well Improvements										
	Wastewater Clarifier Baffling Improvements										
	Wastewater Sludge Pump Check Valve Replacement										
Water	Biorka Drive Cast Iron Waterline Replacement										
	CT Tank Interior Maintenance and Painting										
	East Point Crossing Water Line Inspection										
	Icy Lake Capacity Increase & Snow Basin Diversion										
	Icy Lake Hydrographic Survey										
	Icy Lake Road Reconstruction										
	Installation of Meter and Booster Pump at Agnes Beach PRV Station										
	Mainline and Service Valve Maintenance Program										
	Pyramid Water Storage Tank										
	Pyramid Water Treatment Plant Chlorine Upgrade										
Sediment Traps Between Icy Lake and Icy Creek Reservoir											
Totals	Pre-Design	3	3	2	1						1
	Engineering	6	8	9	7	1	3	1	7		
	Construction	13	8	13	11	6	2	8	1	6	1
	Grand Total	22	19	24	19	7	5	9	8	6	2