FY24-33 CMMP

Captains Bay Electric Line Installation

Electric

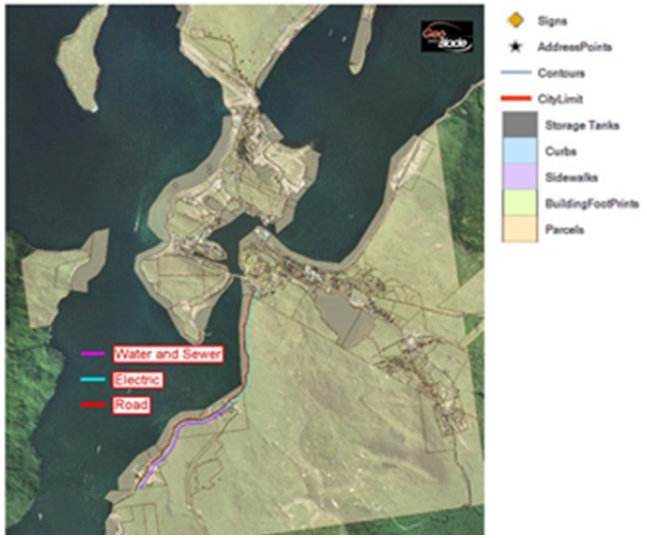
Project Description: This project consists of the installation of a 35,000 volt electrical service from the corner of Airport Beach Road and Captains Bay Road to Westward Fish Processing Plant. The total distance of this installation is 6,300 feet and will require 19,849 feet of 38,000 volt Okanite conductor, 12,600 feet of 6 inch conduit, 11 vaults, 16 bollards, six 3 phase 35 kV sectionalizes, two 4 way 35kV oil switches, and associated equipment.

Project Need: The purpose of this project is to upgrade the Captains Bay road electrical infrastructure from a single 15,000 volt system to a 35,000 volt system. At this time the 15,000 volt system is at its maximum capacity. The installation of a 35,000 volt system will prolong the life of the existing 15,000 volt system. Westward Sea Foods will be the first immediate customer on this service. Westward Sea Foods has requested an increase of electrical power from 1MW to 4.5MW. The existing service to Westward is 15,000 volt service and is at its maximum capacity. The only way to accomplish this is to upgrade from 15,000 volt service to a 35,000 volt service.
The immediate economic benefits to the community is the annual 10 million kWh increase in electrical sales to Westward Sea Foods. The Electrical Proprietary Fund has a debt load that was incurred from building the new powerhouse. The more electricity sold to the rate payers decreases the amount of debt that each rate payer has to pay, and decreases the likelihood that we will have to increase electrical rates in the future.

Development Plan & Status : The costs of the project is estimated at $2,650,836, which was determined using figures from the cost of extending the 35 kV line to the new water plant in Pyramid Valley. Funding for this project will be provided by the General Fund as a loan to be paid back by the Electric Proprietary Fund, and it is projected to have a very short payback with significant increased revenues expected. If Westward uses a projected 10,000,000 kWh annually, the project cost will be recovered in 1.8 years due to an annual revenue increase of $1,444,700.

Estimated Project & Purchase Timeline
Pre Design: FY27
Engineering/Design: FY27
Purchase/Construction: FY27

Captains Bay Road and Utilities



Cost Assumptions	
Engineering, Design, Construction Admin	
Other Professional Services	
Construction Services	$2,300,000
Machinery & Equipment	
Subtotal	$2,300,000
Contingency (30%)	
Total Funding Request	$2,300,000

Source	Appropriated	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	10 Yr. Total
Electric Proprietary Fund	2,650,836	2,300,000	0	0	0	0	0	0	0	0	0	2,300,000
1% Sales Tax	2,900,000	0	0	0	0	0	0	0	0	0	0	0
General Fund	2,800,000	0	0	0	0	0	0	0	0	0	0	0
Total	8,350,836	2,300,000	0	0	0	0	0	0	0	0	0	2,300,000

FY24-33 CMMP

Electrical Distribution Equipment Replacement

Electric

Project Description: This project funds the purchase of ongoing replacement equipment for the electrical distribution system. It includes electrical switches, section cans, transformers, and cables. Electrical equipment will also be purchased for new customers and for existing customers who need to upgrade electrical service.

Project Need: Ongoing replacement of the distribution system equipment is necessary to maintain its reliability and protect the assets of the City and ensure the safe distribution of electricity. This project will correctly capture and capitalize the expenditures made to keep the system operational as well as in expand the system where necessary.

Development Plan & Status : Funding for this project will come from the Electrical Proprietary Fund retained earnings.

Estimated Project & Purchase Timeline

Pre Design: NA

Engineering/Design: NA

Purchase/Construction: NA

FY23 Cost Assumptions	
Engineering, Design, Construction Admin	
Other Professional Services	
Construction Services	
Machinery & Equipment	$100,000
Subtotal	$100,000
Contingency (0%)	0
Total Funding Request	$100,000

Source	Appropriated	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	10 Yr. Total
Electric Proprietary Fund	115,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	0	900,000
Total	115,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	0	900,000

FY24-33 CMMP

Generator Sets Rebuild

Electric

Project Description: This project consists of inspection, major maintenance, and rebuilds of the primary generator sets in the Unalaska Powerhouse. The maintenance schedule for the generator sets at the Unalaska Powerhouse is determined by engine hours. Engine inspections are also conducted by the manufacturer's mechanics to determine if engine rebuilds are needed or if they can be prolonged according to the hourly schedule.

Project Need: These generator set rebuilds are needed to maintain our equipment and the reliability of our electrical production. Our Certificate of Fitness from the Alaska Energy Authority states that we must keep all electrical generating equipment in good running condition.

Development Plan & Status : Due to the high cost of the engine rebuilds, it has been determined that the cost will be capitalized. Costs for the Generator Sets rebuilds can fluctuate greatly according to what is determined by the maintenance inspections. Costs for these rebuilds has been determined by the worst case scenario according to the history of the engines. Money that is not used for rebuilds by the end of the fiscal year, will be returned to the proprietary fund.

Estimated Project & Purchase Timeline

Pre Design: NA

Engineering/Design: NA

Purchase/Construction: NA

Cost Assumptions	
Repair & Maintenance	$2,115,385
Other Professional Services	
Construction Services	
Machinery & Equipment	
Subtotal	$2,115,385
Contingency (30%)	$634,615
Total Funding Request	$2,750,000

Source	Appropriated	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	10 Yr. Total
Electric Proprietary Fund	500,000	1,000,000	500,000	0	0	0	0	0	0	0	0	1,500,000
Total	500,000	1,000,000	500,000	0	0	0	0	0	0	0	0	1,500,000

FY24-33 CMMP

Large Transformer Maintenance and Service

Electric

Project Description: A qualified industry service company who specializes in 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.

Project Need: The City owns four power transformers at the NPH and two at the Town Substation. Three of the NPH transformers are approximately 13 years old, with the fourth only 4 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.

Development Plan & Status : Funding for this project will come from the Electric Proprietary Fund.

Estimated Project & Purchase Timeline

Pre Design: FY24

Engineering/Design: FY24

Purchase/Construction: FY24

Cost Assumptions	
Engineering, Design, Construction Admin	
Other Professional Services	$150,000
Construction Services	
Machinery & Equipment	
Subtotal	$150,000
Contingency (30%)	$45,000
Total Funding Request	$195,000

Source	Appropriated	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	10 Yr. Total
Electric Proprietary Fund	0	195,000	0	0	0	0	0	0	0	0	0	195,000
Total	0	195,000	0	0	0	0	0	0	0	0	0	195,000

FY24-33 CMMP

Makushin Geothermal Project

Electric

Project Description: This project is the City of Unalaska's estimated portion of reliability upgrades for the City electrical distribution system required to accept energy from the Makushin Geothermal Plant. It requires connecting multiple self-generating industrial customers to the current distribution system, installs more robust intermediate level protections, replaces the aging submarine cable at Illiuliuk Bay, upgrades numerous feeder connections and substations, and improvements to the current SCADA system and automated controls. Other funds will be set aside for legal and consulting fees associated with implementing the project.

Project Need: On August 31, 2020, the City entered into a Power Purchase Agreement (PPA) with OCCP. Section 11, Paragraph (c) of the 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 needed 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.

Development Plan & Status : 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 1% and General funds.

Estimated Project & Purchase Timeline

Pre Design: FY22

Engineering/Design: FY22

Purchase/Construction: FY23

Source	Appropriated	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	10 Yr. Total
1% Sales Tax	5,720,000	0	0	0	0	0	0	0	0	0	0	0
Private Contribution	150,000	2,000,000	2,850,000	0	0	0	0	0	0	0	0	4,850,000
Total	5,870,000	2,000,000	2,850,000	0	0	0	0	0	0	0	0	4,850,000

FY24-33 CMMP

Captains Bay Road Paving & Safety Improvements

Public Works

Project Description: This major infrastructure improvement project constructs drainage, utilities, and pavement out Captains Bay Road, 1.4 miles long, between Airport Beach Road and the south end of the Westward Seafoods Complex. Work on the existing gravel road includes widening the road to 13-ft lanes with 2-ft shoulders, base & various areas of embankment reconstruction, new asphalt pavement, and new 6-ft paved separated multi-use path. Project includes selective replacement of storm drain pipes & inlet structures. Utilities are ineligible for the CTP Grant.

Project Need: Captains Bay Road is a primary transportation route for Westward Seafoods, North Pacific Fuel, Northland Services, Offshore Systems Inc., and several small businesses as well as residential areas. The road facilitates high traffic for heavy vehicles used by the fishing and support industries vital to the community's economy. In 2011 the City held public meetings regarding the Road Improvement Master Plan. Residents and industry representatives discussed Captains Bay Road and hazards its high road crown creates. The crown is needed for adequate drainage. There was strong support for improvements to Captains Bay Road. Captains Bay Road also presents future growth opportunities for the community as identified in the City's Comprehensive Plan.

Development Plan & Status : The "Segment A" project funding is currently based upon the most recent funding information from the State of Alaska CTP granting program. If approved under the CTP, the State DOT takes on the Project as its own project. The DOT project team has created the attached estimate. The DOT estimate for the entire Segment A project is approximately $13.16 million. In order to maximize points in the grant application the budgeted grant match is 24%, $3,161,147. This contribution can be lowered to 19% or 14% for 1 or 2 points fewer, respectively.

- Segment A Paving, FY24 $13,155,001
- Safety Improvements, FY25 $4,500,000
- Segment B Paving, FY26 $10,300,000
- Segment C Paving, FY26 $3,100,000
- Segment D Paving, FY26 $10,700,00

This project is grant dependent. Drainage and paving estimates are based on the Ballyhoo Road Drainage & Electrical Upgrades Project. As of April 10, 2020, the State did not award grant funds via the STIP / CTP. Additional grant opportunities will be sought out. A $4,000,000 Legislative request was submitted via CAPSIS in February 2021. Preliminary Estimate by HDL Engineering for total project costs = $53,700,003. On 12-06-21 we received the USACOE permit for the entire project except the portion around the intersection of Airport Beach Road (historic buildings, boats, and pre-contact site). This permit is under internal review and once signed and issued, we can proceed with any portion of the work that does not impact the non-permitted area. We will also want to request to modify the permit once it is issued to include the intersection work. HDL Engineering estimates that the permitting for the intersection area will take about one year to complete. Any work involving the small stream immediately past Westward will require an ADF&G permit but is expected to only take 3 months to obtain.

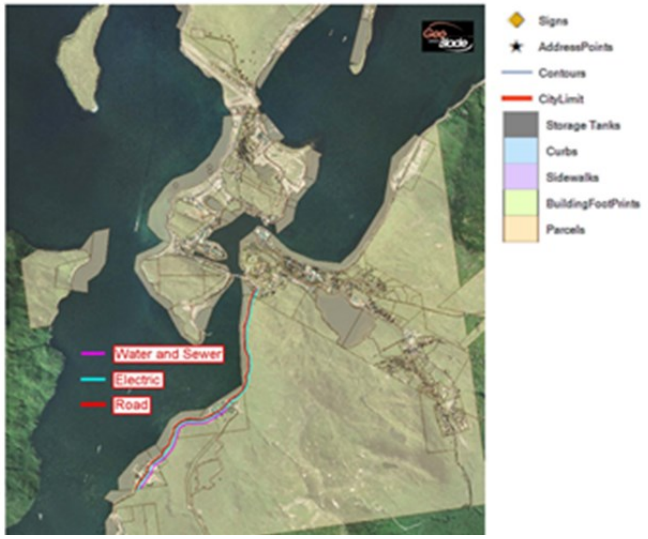
Estimated Project & Purchase Timeline

Pre Design: FY20

Engineering/Design: FY21

Purchase/Construction: FY23

Captains Bay Road and Utilities



Source	Appropriated	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	10 Yr. Total
General Fund	0	3,161,147	0	0	0	0	0	0	0	0	0	3,161,147
Grant - STIP	0	9,993,854	0	0	0	0	0	0	0	0	0	9,993,854
Grant - Other	0	0	4,500,000	24,100,000	0	0	0	0	0	0	0	28,600,000
Total	0	13,155,001	4,500,000	24,100,000	0	0	0	0	0	0	0	41,755,001

FY24-33 CMMP

Equipment Storage Building

Public Works

Project Description: Continuous exposure to the elements shortens the useable life of the City's rolling stock (dozers, dump trucks, graders, snow plows) and increases maintenance costs. Winter rain & slush build-up freeze on the equipment and creates excessive morning prep time clearing hubs, hydraulics, windshields, lights, and back-up horns prior to equipment use. This building will maintain an interior temperature at approximately 45F using a heated slab and keep equipment from freezing overnight and ready.

Project Need: A heated building will improve winter emergency response time and increase the capabilities of Public Works. The new storage building will extend the life of trucks, trailers, graders, snow plows, and snow blowers. The building will also decrease maintenance expense.

Development Plan & Status : Land is available on the Public Works site. A building permit and State Fire Marshall approval will need to be obtained. The 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. The project is estimated at $200 per square feet. Building costs are then expected to be $1,545,830.

Estimated Project & Purchase Timeline

Pre Design: FY23

Engineering/Design: FY23

Purchase/Construction: FY24

Cost Assumptions	
Engineering, Design, Const Admin	195,000
Other Professional Services	34,000
Construction Services	960,000
Machinery & Equipment	100
Subtotal	**1,189,100**
Contingency (set at 30%)	356,730
TOTAL	**1,545,830**
Less Other Funding Sources (Grants, etc.)	-
Total Funding Request $	**1,545,830**

Source	Appropriated	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	10 Yr. Total
General Fund	195,000	1,350,830	0	0	0	0	0	0	0	0	0	1,350,830
Total	195,000	1,350,830	0	0	0	0	0	0	0	0	0	1,350,830

FY24-33 CMMP

HVAC Controls Upgrades - 11 City Buildings

Public Works

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

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

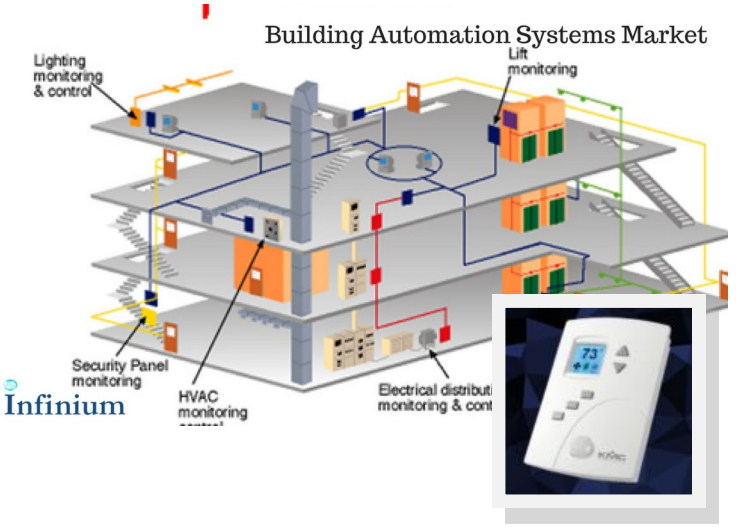
Development Plan & Status : In FY20, our HVAC controls contractor, Long Building Technologies, gave us an informal no cost quote. In FY23 we will work with Long to refine the scope and get a solid cost estimate. In FY24, Project implementation will occur.

Estimated Project & Purchase Timeline

Pre Design: FY23

Engineering/Design: FY23

Purchase/Construction: FY24



Cost Assumptions

Engineering, Design, Const Admin		2,000
Other Professional Services		500
Construction Services		331,213
Machinery & Equipment		0
	Subtotal	333,713
Contingency (set at 30%)		100,114
	TOTAL	**433,827**
Less Other Funding Sources (Grants, etc)		
	Total Funding Request	**433,827**

Source	Appropriated	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	10 Yr. Total
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

FY24-33 CMMP

Restroom Unalaska Marine Center

Ports

Project Description: This project is the purchase and installation of a new restroom for the Unalaska Marine Center. Water and Sewer service has been stubbed in at UMC for the purpose of installation of public restrooms for dock workers and passengers. City of Unalaska Code requires connecting to City services where available. These services are available at UMC

Project Need: For many years dock workers have used portable toilets. These outhouses require service from the Wastewater Treatment Staff. This project will provide a minimum of four toilets bring the City into compliance with City Code and EPA regulations. The facilities will improve working conditions for employees and visitors.

Development Plan & Status : This project involves a preexisting design and the restroom will tie into a pre-poured foundation that connects into existing utility services. The current cost assumption is from Public Works, for approximately $700 per square foot. This would be a from-scratch creation, a worst case scenario for funding. Ports is sourcing pre-designed and built options to lower the cost.

Estimated Project & Purchase Timeline

Pre Design: FY23

Engineering/Design: FY23

Purchase/Construction: FY24

Cost Assumptions	
Engineering, Design, Construction Admin	50,000.00
Other Professional Services	25,000.00
Construction Services	332,815.00
Machinery & Equipment	
Subtotal	407,815.00
Contingency (30%)	122,345.00
Total Funding Request	530,160.00

Source	Appropriated	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	10 Yr. Total
Ports Proprietary Fund	50,000	480,160	0	0	0	0	0	0	0	0	0	480,160
Total	50,000	480,160	0	0	0	0	0	0	0	0	0	480,160

FY24-33 CMMP

Captains Bay Road Wastewater Line Installation

Wastewater

Project Description: This project will cover 2.5 miles of wastewater line from Airport Beach Road to OSI

Project Need: This funding is required for the CTP grant. Captains Bay Road is the logical location for future commercial and residential expansion for the community of Unalaska. Captains Bay has the docking facilities and space for equipment storage to accommodate this and other industrial growth. Oil companies have expressed interest in Unalaska's deep-water port as a resupply port for their northern seas oil exploration and drilling operations. Construction of the road and utility improvements needs to begin now so Unalaska can meet the current and future needs of the community.

Development Plan & Status : Captains Bay Road currently has sewer line services from the intersection of Airport Beach Road to Westward Seafoods, a distance of one mile. This project will eventually install a new wastewater line from Westward Seafoods entirely to OSI.

The additional wastewater funds are necessary to extend the wastewater line an additional 1,200 feet from the current terminus to the end of the CTP paving project. Reagan Engineering has quoted the design at $50,000, and the construction cost estimate at $987,600 ($823/ft * 1200').

HDR Engineering performed a Cost-Benefit Analysis (CBA) of the proposed Captains Bay Road Paving and Utilities Upgrade Project. The purpose of the CBA is to justify project costs to support funding requests to upgrade, pave, illuminate, provide pedestrian walkway, and extend utilities. The range of project benefits includes reduced road maintenance costs, reduced vehicle maintenance costs, reduced vehicle emissions, improved safety, travel time savings, avoided road closures (rock slides, avalanches, accidents). The project is at 65% design and broken into 3 segments over 3 years. The CBA compares project costs against project benefits by segment and by phase to enable decisions to be made regarding the best approach going forward.

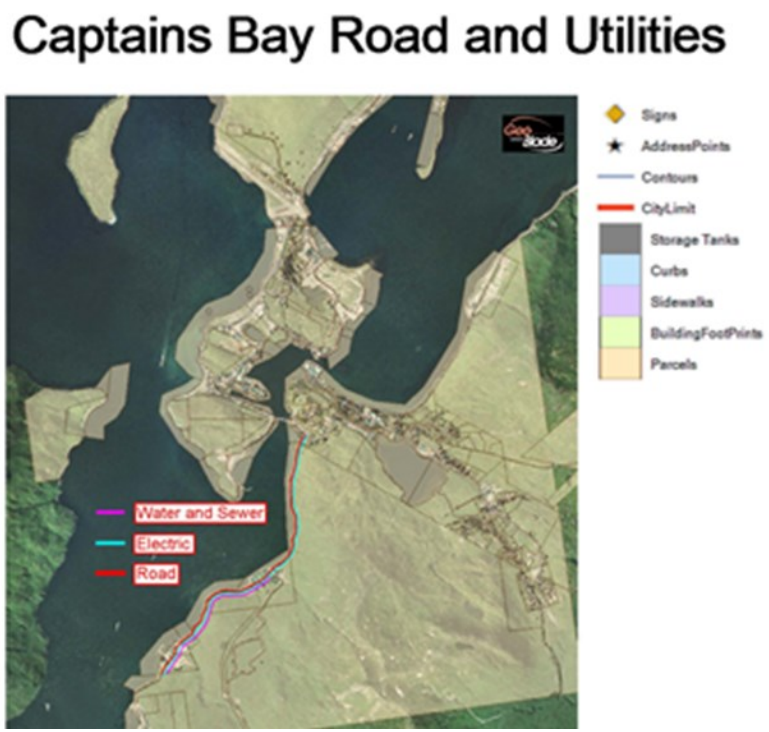
Cost Assumptions		
	Other Professional Services	
	Engineering, Design, Construction Admin	50,000
	Construction Services	11,187,600
	Machinery & Equipment	
	Subtotal	
	Contingency (15%)	
	Total Funding Request	11,237,600

Estimated Project & Purchase Timeline

Pre Design: FY26

Engineering/Design: FY27

Purchase/Construction: FY28



Source	Appropriated	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	10 Yr. Total
Wastewater Proprietary Fund	0	50,000	11,187,600	0	0	0		0	0	0	0	11,237,600
Total	0	50,000	11,187,600	0	0	0		0	0	0	0	11,237,600

FY24-33 CMMP

Captains Bay Road Waterline Extension

Water

Project Description: This project will construct a waterline out Captains Bay Road to the entrance of Offshore Systems, Inc. (OSI). This work will construct approximately 1 mile of waterline extension from Westward to North Pacific Fuel along Captains Bay Road.

Project Need: Captains Bay Road is the logical location for future commercial and residential expansion for the community of Unalaska. Captains Bay has the docking facilities and space for equipment storage to accommodate this and other industrial growth. Oil companies have expressed interest in Unalaska's deep-water port as a resupply port for their northern seas oil exploration and drilling operations. Construction of the road and utility improvements needs to begin now so Unalaska can meet the current and future needs of the community.

Development Plan & Status: Captains Bay Road currently has water line services from the intersection of Airport Beach Road to Westward Seafoods, a distance of one mile. This project will install a new waterline from Westward Seafoods to North Pacific Fuel to replace the old, failing wood-stave waterline. Conducting this project will remove the need for the water storage tank at in Pyramid Valley.

HDR Engineering performed a Cost-Benefit Analysis (CBA) of the proposed Captains Bay Road Paving and Utilities Upgrade Project. The purpose of the CBA is to justify project costs to support funding requests to upgrade, pave, illuminate, provide pedestrian walkway, and extend utilities. The range of project benefits includes reduced road maintenance costs, reduced vehicle maintenance costs, reduced vehicle emissions, improved safety, travel time savings, avoided road closures (rock slides, avalanches, accidents). The project is at 65% design and broken into 3 segments over 3 years. The CBA compares project costs against project benefits by segment and by phase to enable decisions to be made regarding the best approach going forward.

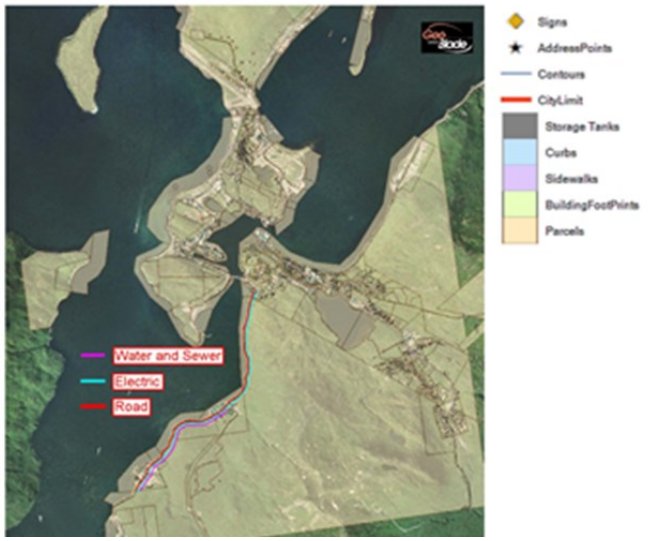
Estimated Project & Purchase Timeline

Pre Design: FY28

Engineering/Design: FY29

Purchase/Construction: FY30

Captains Bay Road and Utilities



Cost Assumptions		
	Engineering, Design, Construction Admin	
	Other Professional Services	
	Construction Services	8,300,000
	Machinery & Equipment	
	Subtotal	8,300,000
	Contingency (30%)	
	Total Funding Request	8,300,000

Source	Appropriated	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	10 Yr. Total
Water Proprietary Fund	1,200,000	3,600,000	4,700,000	0	0	0	0	0	0	0	0	8,300,000
Total	1,200,000	3,600,000	4,700,000	0	0	0	0	0	0	0	0	8,300,000

FY24-33 CMMP

Icy Lake Hydrographic Survey

Water

Project Description: This project will survey Icy Lake reservoir consisting of 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 and analyze the hydrographic and topographic survey results. The stage-storage curve should allow operators 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 the SCADA system automatically calculates and displays the lake's volume of available water in real-time.

Project 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 using a remote controlled valve at the sheet pile dam 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's estimate of remaining water is overly conservative, the result could be premature water rationing, impacting utility customers, especially the fish processors. If the Utility overestimates the remaining water, then it could run out of water faster than expected. An accurate hydrographic survey of the lake would enable precise determinations of the available water and more effectively manage water supplies.

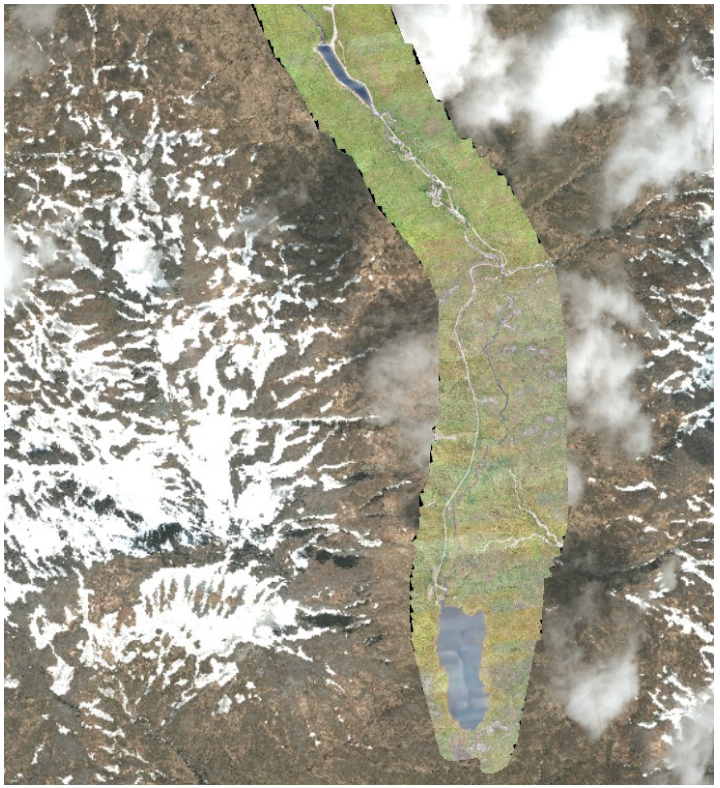
Development Plan & Status : The budget for this project was estimated from the Water Master Plan. A more accurate budget will be determined during the design phase of the project. The funding for this project will come from the Proprietary Fund.

Estimated Project & Purchase Timeline

Pre Design: FY24

Engineering/Design: FY24

Purchase/Construction: FY24



Cost Assumptions	
Engineering, Design, Construction Admin	$5,000
Other Professional Services	$41,000
Construction Services	
Machinery & Equipment	$10,000
Subtotal	$56,000
Contingency (30%)	$16,800
Total Funding Request	$72,800

Source	Appropriated	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	10 Yr. Total
Water Proprietary Fund	0	72,800	0	0	0	0	0	0	0	0	0	72,800
Total	0	72,800	0	0	0	0	0	0	0	0	0	72,800

FY24-33 CMMP

WH1 and WH2 On-site Generation of Chlorine

Water

Project Description: This project in both Well House 1 and Well House 2 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.

Project 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. If they cease to carry Chlorine Gas, the remaining vendor is twice the price due to the extra cost involved in shipping the Chlorine Gas to the west coast from Nevada. In June of 2021, Chlorine Gas manufacturers across the US declared a "Force Majeure" due to production issues. The price for Chlorine Gas increased in mid-August 2021.

Since both well houses are located in residential areas, using Chlorine Gas at these locations is a clear safety concern due to the possibility of a Chlorine Gas leak. This hazard continues to increase as more housing is developed and constructed. On-site generation at the well houses will eliminate this safety issue.

Also, 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.

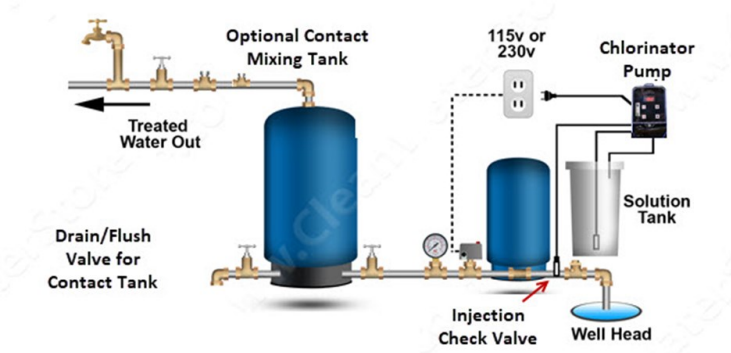
In addition, the multiple safety items associated with Chlorine Gas that we are required to own are very expensive, highly regulated and take a significant amount of time to maintain.

Estimated Project & Purchase Timeline

Pre Design: FY24

Engineering/Design: FY24

Purchase/Construction: FY24



Development Plan & Status : This project will require a consultant for design and engineering to obtain Alaska Department of Environmental Conservation approval. A contractor will be needed for construction.

Cost Assumptions	
Engineering, Design, Construction Admin	$60,000
Other Professional Services	
Construction Services	$185,000
Machinery & Equipment	$100,000
Subtotal	$345,000
Contingency (30%)	$103,500
Total Funding Request	$448,500

Source	Appropriated	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	10 Yr. Total
Water Proprietary Fund	0	448,500	0	0	0	0	0	0	0	0	0	448,500
Total	0	448,500	0	0	0	0	0	0	0	0	0	448,500