WELLESLEY MUNICIPAL LIGHT PLANT
FISCAL YEAR 2022 CAPITAL WORK PLAN

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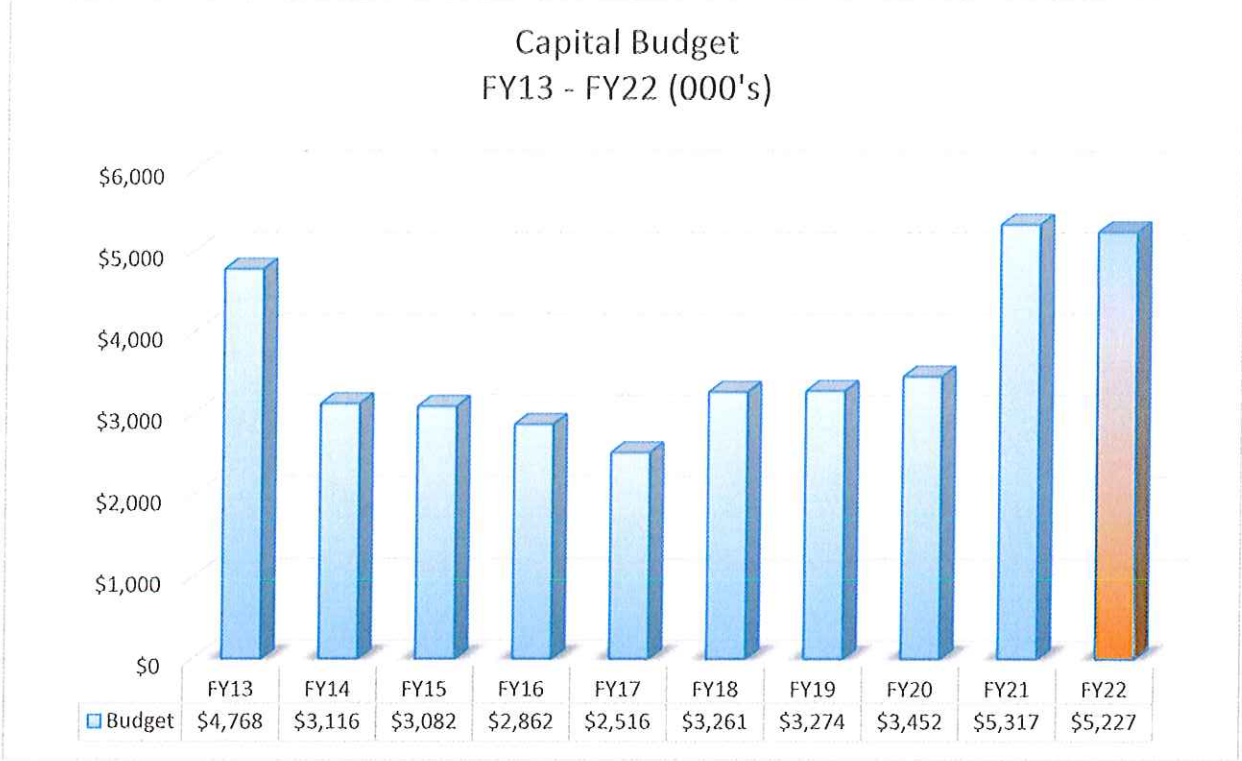
WELLESLEY MUNICIPAL LIGHT PLANT

Fiscal Year 2022 Capital Work Plan
Executive Summary

The end of Fiscal Year 2020 ("FY20") was a challenging period due to COVID-19. While there are still uncertainties due to the pandemic that could have an impact on how much is accomplished during Fiscal Year 2021 ("FY21"), the Municipal Light Plant ("MLP") continues making progress with the FY21 projects, while it keeps vigilant, and attentive to the latest precautions needed to maintain the safety of the employees and the public. When it comes to capital expending for the last ten years, the bar graph below compares the MLP's capital expenditures from Fiscal Year 2013 ("FY23") through, and including Fiscal Year 2022 ("FY22") request.



The MLP's FY22 Capital Work Plan is $2,159,285 less than the estimate provided in the five-year Distribution Work Plan presented in the FY21 Capital Work Plan. This decrease is mainly due to the multi-year implementation approach proposed for the Advanced Metering Infrastructure ("AMI") Project. This approach will allow the MLP to manage the installation process better, avoid major installation issues, and incrementally purchase AMI meters with proven functionality. The second factor contributing to the decrease of FY22 amount is the decrease of small cell antennas installations for that period.

Long term reliability planning begins with the evaluation of the bulk infrastructure required to serve the residents and businesses and ends with service at the customer's meter. The summary below provides a snapshot of the evaluation process:

- **Use Rights and MLP system peaks.** The MLP's peak demand of 68,863 kilowatts (kW) occurred in August 2018. The previous peak of 65,609 kW was set in June 2008. The added load due to Wellesley College ("WC") in the summer of 2018 accounts for the increase. Otherwise, peak load growth has been flat for the past ten years. The flattened demand growth is attributed to conservation efforts and to increase in solar generation in Wellesley. To bring electricity into Wellesley, the MLP has purchased 56,000 kilowatts ("kW") and 40,000 kW of Use Rights in the Eversource Substations in Newton and Needham, respectively. Barring a transformational shift in the trend for energy usage, such as the transportation sector going 100% electric, the MLP does not need to invest in additional Use Rights for numerous years ahead.

- **Supply Lines.** The MLP distribution system is powered at 13.8kV by nine Supply Lines. Six of the Supply Lines come from Eversource Station 292 in Newton, and three come from Eversource Station 148 in Needham. By the end of FY21, the MLP will have four supply lines out of Station 148 in Needham. A conservative value for the useful life of a Supply Line is forty years. Several of our Supply Lines will approach that age over the next few years. During the summer of 2018, the MLP set an all-time peak of 68.9 MW. During the summer of 2019, the weather and other factors did not align to produce a high summer peak load. While the summer of 2020 reached high temperatures, the peak was not substantial due to the impact of COVID-19 on the energy usage of commercial and primary customers. Nevertheless, we will have another summer like 2018, and our system peak will then be at the same level or higher due to known large load additions since the summer of 2018. We must also build enough capacity into our Supply Lines to allow for outages at peak. The MLP needs to have enough transferable capacity in the event one of the supply lines goes down in the middle of a peak period.

- **Wellesley Substations.** The MLP plans substation transformer capacity to have sufficient capacity to serve all the 4.16 kV load with one transformer out of service during a system peak. Depending on how fully loaded substations are, the useful life can range from 50 to 60 years. The Weston Road Substation was rebuilt in 2006, and the Wellesley Hills Substation was partially rebuilt in 2008. The Cedar Street Substation was built in 1965. During the FY20 Capital Plan, the last of the 4.16 kV load, supplied out of the Cedar Street Substation, was converted to 13.8 kV. This conversion eliminated the need to replace much of the equipment at that substation.

The MLP staff has been working towards the conversion of the 4.16 kV circuits at the Weston Road Substation. It is expected that, by the end of Fiscal Year 2023, to have all the circuits converted to 13.8 kV. This conversion will eliminate substation transformers and free up a piece of distribution switchgear that will have better use at a different substation.

- **Distribution Circuits, Secondaries, and Services:** The MLP provides electric service using 30 distribution circuits. Based on condition and performance/reliability, the MLP has systematically rebuilt and upgraded portions of or entire circuits. For planning purposes, the distribution plant should, on average, be replaced every 40 years. Secondaries and services are usually included with the reconstruction of distribution circuits.

- **Poles:** The MLP has 5,200 wooden poles. The staff usually budgets to replace approximately 130 poles each year. Of this amount, 40% to 50% are typically replaced as part of an overhead capital project, and the remainder based on an independent pole inspection.

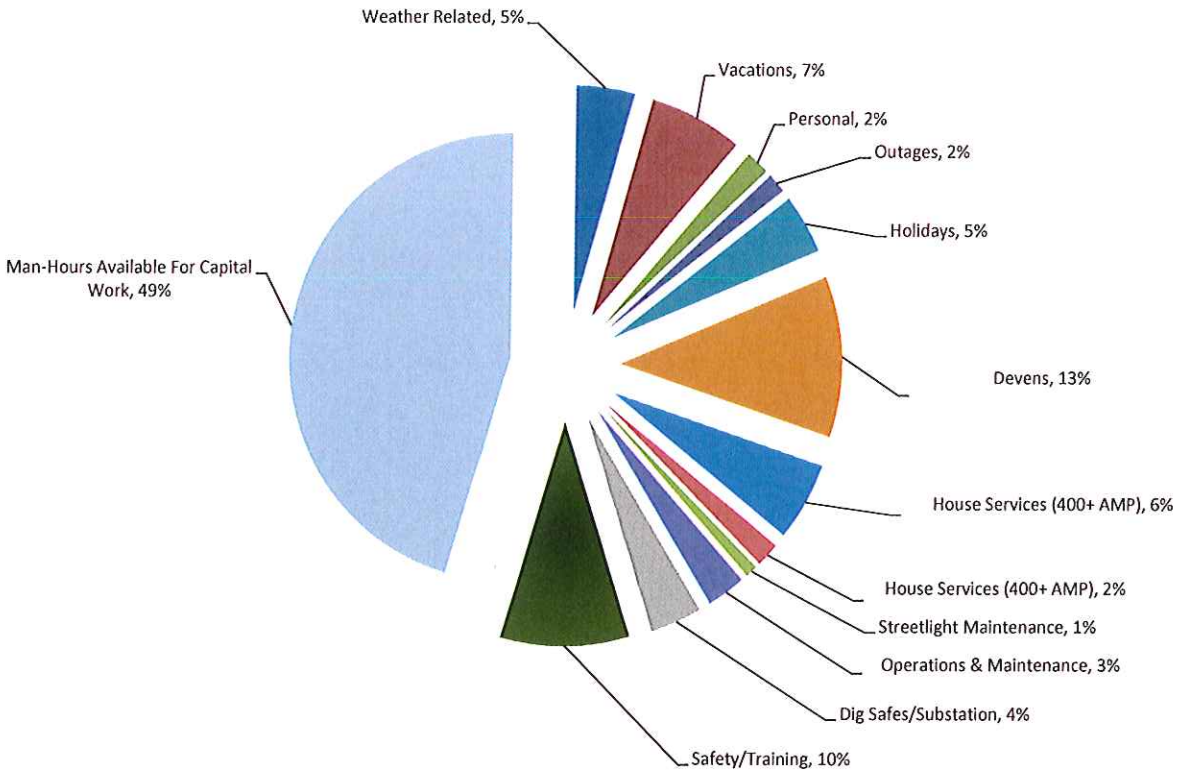
The MLP has twelve cross-trained line workers and three support positions providing 31,200 total hours for FY22. Adjusting for vacations, outages, holidays, etc., the remaining available hours are 24,920. These hours are further reduced to support operations and maintenance, Devens, house services, training, etc. leaving 15,304 hours to perform the capital plan work. The two charts in Section 1-5 summarize the available hours and allocation for FY22 line work.

The details of the FY22 capital projects are provided in Section 2. Several important factors weighed heavily in prioritizing the recommended projects. The MLP is continuing to execute a multi-year plan to convert all 4.16 kV circuits to 13.8 kV. The conversion to 13.8 kV eliminates the need for a costly rebuild of substations and reduces distribution losses. Another factor is that the projects we are funding must create operating and switching flexibility for the possibility of increased system peak demand from Wellesley College and other large loads. Finally, we are funding the expansion of our fiber infrastructure to support the Internet Initiative. When possible, the projects we have proposed funding address more than one of these factors.

WELLESLEY MUNICIPAL LIGHT PLANT
Capital Work Man-Hour Breakdown
Fiscal Year 2022 Specific Allocation

AVAILABLE MAN HOURS	
TOTAL AVAILABLE HOURS	31,200
Weather Related	1,440
Vacations	2,320
Personal	600
Outages	480
Holidays	1,440
Mass Development-Devens	3,900
Streetlight Maintenance	300
Operations & Maintenance	960
Dig Safes/Substation	1,272
Safety/Training	3,184
House Services	0
Man-Hours Available For Capital Work	**15,304**

SPECIFIC FY22 ALLOCATION BY PROJECT	
Advanced Metering Infrastructure (AMI) Project	1,708
1587 13.8kV Line to Wellesley Sq. Expansion	761
Small Cell Project	3,118
Internet Expansion	1,006
Annual Pole Replacements	2,300
Transformer Upgrades and New Purchases	456
Customer Related Work	1,059
House Services (200 AMP)	1,600
House Services (400+ AMP)	1,900
Additional Overhead Work	588
Additional Underground Work	588
Street Lighting	155
Outage Management System & GIS Circuit Maps	200
Sum of FY22 Capital Project Man-Hours	**15,439**
Available Hours	**15,304**
Overage/Shortfall Hours	**-135**



WELLESLEY MUNICIPAL LIGHT PLANT FY22 Capital Work Plan Summary		
Capital Cost Allocation	**Amount**	**Page Reference**
Distribution Upgrades:		
1587 13.8kV Line to Wellesley Square Expansion	$222,152	2-2
Internet Expansion	$274,025	2-2
Annual Pole Inspection/Replacements	$325,550	2-2
Transformer Upgrades and New Purchases	$432,962	2-3
Additional Overhead & Underground Work	$152,925	2-3
Street Lighting	$54,745	2-3
Total FY22 Distribution Projects	***$2,119,702***	
Other Capital Projects:		
Advanced Metering Infrastructure (AMI) Project	$1,700,417	3-2
Vehicle Replacements: 6,160,162	$150,000	3-2
Customer Related Work	$242,875	3-2
200 AMP House Services	$403,175	3.2
400/600/800 AMP Services	$395,529	3-3
SCADA Upgrades	$40,000	3-3
Outage Managerment System & GIS Circuit Maps	$110,000	3-3
General Plant	$50,000	3-3 to 3-4
Small Capital Investments	$15,000	3-4
Total Non-Distribution Projects	***$3,106,995***	
Total Capital Projects	**$5,226,697**	

WELLESLEY MUNICIPAL LIGHT PLANT FIVE YEAR DISTRIBUTION WORK PLAN

FISCAL YEAR	PROJECT TITLE	MATERIALS/ SERVICES	VEHICLES	LABOR	PROJECT TOTAL	MAN HOURS
22	Advanced Metering Infrastructure (AMI) Project	$1,512,500	$17,083	$170,833	$1,700,417	1,708
22	1587:13.8kV Line to Wellesley Square Expansion	$136,987	$9,062	$76,103	$222,152	761
22	Small Cell Project	$137,300	$55,300	$311,818	$504,418	3,118
22	Internet Expansion	$143,640	$29,820	$100,565	$274,025	1,006
22	Annual Pole Inspections & Replacements	$50,550	$45,000	$230,000	$325,550	2,300
22	Transformer Upgrades & New Purchases	$380,522	$6,840	$45,600	$432,962	456
22	Additional Overhead & Underground Work	$173,250	$15,000	$117,600	$305,850	1176
22	Customer Related Work & Service Upgrades	$527,599	$58,080	$455,900	$1,041,579	4559
22	Street Lighting	$37,265	$1,980	$15,500	$54,745	155
22	Vehicle Replacements: 6,160,162	$150,000	$0	$0	$150,000	0
22	SCADA Upgrades	$40,000	$0	$0	$40,000	0
22	Outage Management System & GIS Circuit Maps	$90,000	$0	$20,000	$110,000	200
22	General Plant	$50,000	$0	$0	$50,000	0
22	Small Capital Investments	$15,000	$0	$0	$15,000	0
	FISCAL YEAR 2022 TOTAL	**$3,444,613**	**$238,165**	**$1,543,919**	**$5,226,697**	**15,439**
23	New Supply Line Station 292 - 41	$1,799,902	$50,160	$334,400	$2,184,462	3,344
23	Advanced Metering Infrastructure (AMI) Project	$512,500	$17,083	$170,833	$700,417	1,708
23	500 Line Area Reconstruction	$35,500	$22,025	$125,800	$183,325	1,250
23	Boulder road	$42,550	$24,330	$114,200	$181,080	1142
23	Postage & Folding/Stuffing Machines Purchase	$30,000	$0	$0	$30,000	0
23	Weston Road Substation 4kV Feeder Conversion	$150,430	$37,960	$147,857	$336,247	1739
23	Internet Expansion	$147,231	$30,566	$103,079	$280,876	1,207
23	Annual Pole Inspections & Replacements	$51,814	$46,125	$235,750	$333,689	2,300
23	Transformer Upgrades & New Purchases	$390,035	$7,011	$46,740	$443,786	456
23	Additional Overhead & Underground Work	$177,581	$15,375	$120,540	$313,496	1,176
23	Customer Related Work & Service Upgrades	$540,788	$59,532	$467,298	$1,067,618	4,559
23	Street Lighting	$38,197	$2,030	$15,888	$56,114	155
23	Vehicle Replacements: 3, 8, 182	$225,000	$0	$0	$153,750	0
23	SCADA Upgrades	$15,000	$0	$0	$15,000	0
23	General Plant	$51,250	$0	$0	$51,250	0
23	Small Capital Investments	$15,375	$0	$0	$15,375	0
	FISCAL YEAR 2023 TOTAL	**$2,423,251**	**$262,036**	**$1,547,984**	**$4,162,022**	**15,692**
24	New Supply Line Station 292 - 41	$1,844,900	$51,414	$342,760	$2,239,074	3,344
24	Advanced Metering Infrastructure (AMI) Project	$512,500	$17,083	$170,833	$700,417	1,708
24	Relocate the Weston Road 4kV SG to Cedar Street	$650,000	$24,990	$166,600	$841,590	1,666
24	Convert Wellesley Hills 4kV	$34,500	$8,060	$50,000	$92,560	500
24	1512 Line Area Reconstruction	$36,388	$22,576	$128,945	$187,908	1,480
24	Substation Capacitors, Weston Rd & Wellesley Hills	$35,000	$5,000	$10,000	$50,000	50
24	Washington Street & Pond Road	$65,890	$18,300	$122,000	$206,190	1220
24	Telephone System Replacement	$25,000	$0	$0	$25,000	0
24	Internet Expansion	$150,912	$31,330	$105,656	$287,898	1,448
24	Annual Pole Inspections & Replacements	$53,109	$47,278	$241,644	$342,031	2,300
24	Transformer Upgrades & New Purchases	$399,786	$7,186	$47,909	$454,881	456
24	Additional Overhead & Underground Work	$182,021	$15,759	$123,554	$321,334	1,176
24	Customer Related Work & Service Upgrades	$554,308	$61,020	$478,980	$1,094,308	4,559
24	Street Lighting	$39,152	$2,080	$16,285	$57,516	155
24	Vehicle Replacements: 169	$325,000	$0	$0	$157,594	0
24	SCADA Upgrades	$15,375	$0	$0	$15,375	0
24	General Plant	$52,531	$0	$0	$52,531	0
24	Small Capital Investments	$15,759	$0	$0	$15,759	0
	FISCAL YEAR 2024 TOTAL	**$2,634,730**	**$243,580**	**$1,491,571**	**$4,202,475**	**15,010**
25	New Supply Line Station 292 - 41	$1,891,022	$52,699	$351,329	$2,295,051	3,344
25	Convert Wellesley Hills 4kV	$35,363	$8,262	$51,250	$94,874	500
25	900 Line Area Reconstruction	$37,297	$23,140	$132,169	$192,606	1276
25	Internet Expansion	$154,685	$32,113	$108,298	$295,095	1,665
25	Annual Pole Inspections & Replacements	$54,437	$48,460	$247,685	$350,582	2,300
25	Transformer Upgrades & New Purchases	$409,781	$7,366	$49,106	$466,253	456
25	Additional Overhead & Underground Work	$186,571	$16,153	$126,642	$329,367	1,176
25	Customer Related Work & Service Upgrades	$568,166	$62,546	$490,954	$1,121,666	4,559
25	Street Lighting	$40,130	$2,132	$16,692	$58,954	155
25	Vehicle Replacements: 174	$375,000	$0	$0	$161,534	0
25	SCADA Upgrades	$15,759	$0	$0	$15,759	0
25	General Plant	$53,845	$0	$0	$53,845	0
25	Small Capital Investments	$16,153	$0	$0	$16,153	0
	FISCAL YEAR 2025 TOTAL	**$3,838,209**	**$252,871**	**$1,574,125**	**$5,451,738**	**15,431**
26	New Supply Line Station 292 - 41	$1,938,298	$54,017	$360,112	$2,352,427	3,344
26	Convert Wellesley Hills 4kV	$36,247	$8,468	$52,531	$97,246	500
26	RTAC Distribution Automation Expansion	$175,000	$10,000	$25,000	$210,000	1000
26	Internet Expansion	$158,552	$32,916	$111,005	$302,472	1,915
26	Annual Pole Inspections & Replacements	$55,798	$49,672	$253,877	$359,346	2,300
26	Transformer Upgrades & New Purchases	$420,025	$7,550	$50,334	$477,909	456
26	Additional Overhead & Underground Work	$191,236	$16,557	$129,808	$337,601	1,176
26	Customer Related Work & Service Upgrades	$582,370	$64,109	$503,228	$1,149,708	4,559
26	Street Lighting	$41,134	$2,186	$17,109	$60,428	155
26	Vehicle Replacements: 177	$350,000	$0	$0	$165,572	0
26	SCADA Upgrades	$16,153	$0	$0	$16,153	0
26	General Plant	$55,191	$0	$0	$55,191	0
26	Small Capital Investments	$16,557	$0	$0	$16,557	0
	FISCAL YEAR 2026 TOTAL	**$2,098,261**	**$191,458**	**$1,142,893**	**$3,248,184**	**15,405**

WELLESLEY MUNICIPAL LIGHT PLANT FY22 Distribution Capital Plan Summary Summary of Distribution Projects			
Capital Project	**Labor**	**Materials/ Vehicles/ Other**	**Total**
Distribution Upgrades:			
1587 13.8kV Line to Wellesley Square Expansion	$76,103	$146,049	$222,152
Small Cell Project	$311,818	$192,600	$504,418
Internet Expansion	$100,565	$173,460	$274,025
Annual Pole Inspection/Replacements	$230,000	$95,550	$325,550
Transformer Upgrades and New Purchases	$45,600	$387,362	$432,962
Additional Overhead	$58,800	$94,125	$152,925
Additional Underground	$58,800	$94,125	$152,925
Street Lighting	$15,500	$39,245	$54,745
Total FY22 Distribution Projects	***$897,186***	***$1,222,516***	***$2,119,702***

SECTION 2: SPECIFIC CAPITAL DISTRIBUTION PROJECTS

1587: 13.8kV to Wellesley Square - Expansion **$222,152**

This commercial area is served by three distribution circuits, 1300, 1400, and 1600. During Fiscal Year 2018, the 60-year old secondary cables were replaced, along with much of the network equipment. The FY22 capital work involves the replacement of approximately 6,000 feet of 500 and 1,000 MCM cable. To minimize the impact of lengthy outages to commercial customers, the staff estimates 315 hours of nighttime work will be required. An itemization of the costs involved to complete this project is in Section 4-2. Sketch of expansion area is in Section 4-3.

Small Cell Project **$504,418**

This project encompasses the MLP's expansion of its existing pole-mounted antenna system. On January 27, 2020, the Municipal Light Board approved this small cell wireless expansion with AT&T. Unlike the American Tower Corporation ("ATC") antenna network, which primarily focused on commuters, the AT&T installation has been designed to provide cellular coverage to most areas within Wellesley. The MLP will be installing 35 small cell antennas, which are almost identical to other antennas already deployed within Wellesley. Also, the MLP will utilize its fiber optic backbone and resources to connect these antennas to AT&T's Main Hub. An itemization of the costs involved to complete this project is in Section 4-4.

Internet Expansion **$274,025**

This project allows for the further expansion of the WMLP WellesleyNET Internet Service, which started in FY19. This budget amount is based on an aggressive sales and marketing strategy. Actual spending will be based on actual connections and revised forecasts, as the MLP's staff monitors progress and success. We will make prudent investments in infrastructure as needed. Estimated costs to complete this project are in Section 4-5.

Annual Pole Inspection/Replacements **$325,550**

It is a sound utility practice to inspect poles every ten years. In December 2014, the MLP purchased Verizon's interest in all jointly-owned utility poles in Wellesley. As part of the negotiation strategy, the MLP funded 50% of the inspection of the utility poles in Verizon's maintenance area. As a result, the pole inspection in the MLP's set area (north of Route 9) had gone twelve years before the April 2015 inspection. The FY22 Capital Plan has scheduled the continued replacement of poles in poor condition to maintain a 40-year life cycle. A breakdown of the costs involved in this project is in Section 4-6.

Transformer Upgrades & New Purchases **$432,962**

As residential usage of electronics expands, more people buy electric cars, home additions are built, and smaller homes are replaced with larger houses, distribution transformers would become overloaded if not addressed. An overloaded transformer will create voltage issues and other reliability and power quality issues for customers. The MLP analyzes transformer loading anytime we receive an application to upgrade or add a service. We install additional transformers or upgrade existing transformers as needed. This budget item also includes replacing older transformers or transformers in poor condition before they fail. These practices result in better service quality and fewer outages. A breakdown of the costs involved in this project is in Section 4-7.

Additional Overhead & Underground Work **$152,925/$152,925**

Each year there are unplanned events that require capital expenditures. These include occurrences such as:

- Pole accidents;
- Cable faults;
- Major weather events; and
- Premature equipment failure.

Street Lighting **$54,774**

The MLP maintains the Town's traffic signals, crosswalk signals, and pedestrian crossing lights. The MLP also maintains all Wellesley streetlights. Capital costs are incurred for "hit and run" accidents and to replace older Town & Country streetlights. FY22 will be the third year operating with Light Emitting Diode fixtures after the replaced high-pressure sodium lights.

WELLESLEY MUNICIPAL LIGHT PLANT FY22 Other Capital Investments Summary of Non-Distribution Infrastructure Projects			
Other Capital Projects	**Labor**	**Materials/ Vehicles/ Other**	**Total**
Advanced Metering Infrastructure (AMI) Project	$170,833	$1,529,583	$1,700,417
Vehicle Replacements: 6,160,162	$0	$150,000	$150,000
Customer Related Work	$105,900	$136,975	$242,875
200 AMP House Services	$160,000	$243,175	$403,175
400/600/800 AMP Services	$190,000	$205,529	$395,529
SCADA Upgrades	$0	$40,000	$40,000
Outage Managerment System & GIS Circuit Maps	$20,000	$90,000	$110,000
General Plant	$0	$50,000	$50,000
Small Capital Investments	$0	$15,000	$15,000
Total Non-Distribution Projects	***$646,733***	***$2,460,262***	***$3,106,995***

SECTION 3: OTHER CAPITAL PROJECTS

Advanced Metering Infrastructure (AMI) Project **$1,700,417**

The MLP metering system has been built on Automatic Meter Reading (AMR) technology, which is becoming outdated, especially with the many technological advances and needs of data to better manage energy consumption. The MLP's staff, after evaluating various proposals, and with the assistant of consultant Weston & Sampson, recommended to the MLP Board to move forward with an AMI PILOT program to prove the new technology in Wellesley's densely tree populated terrain. Assuming a successful PILOT program, the MLP staff is anticipating to recommend to the Board a partial deployment of an AMI system. The three-year plan will start with the acquisition and installation of all the software necessary for the deployment, and the scheduling and installation of 3,417 meters. The second and third year will target the scheduling and installation of an equal amount of meters. An itemization of the costs involved to complete this project is in Section 4-1.

Vehicle Replacements **$150,000**

#6 Ford Fusion - #160 Ford Explorer - #162 Chevy Colorado

Car #6 is a 2014 Ford Fusion with approximately 76,000. This vehicle is approaching its end of useful life and needs of replacement.

Truck #160 is a 2013 Ford Explorer, primarily used for our operations' staff to commute to Devens, but also used for multiple tasks and errands when regularly stationed in Town.

Truck #162 is a 2012 Chevrolet Colorado with eight years of extreme "stop and go" mileage performing dig safes and other tasks. The continuous in-Town driving done every day on this vehicle has it at the end of its useful life.

The estimated cost of replacement for all these vehicles, including the installation of mobile radios and emergency warning lights, is $150,000. Section 4-8 includes these purchases.

Customer Related and Service Upgrades **$242,875**

In addition to 200, 400, 600, and 800 AMP services, the MLP assigns line workers to respond to other customer-related work requests. Most of this work is reimbursable, with the MLP recovering all costs. Approximately 10% of work in this category is not reimbursable and includes costs incurred to repair or replace poles in Hit-and-Run accidents. A breakdown of the costs involved in this unit can be found in Section 4-8.

200 AMP House Services **$403,175**

Historically, the MLP has expended approximately 2,000 hours of line worker and electrician hours and 700 hours of supervisory time to replace and install 200 AMP electrical services. Based on a five-year average, the MLP is projecting an expenditure of $403,175 in FY22. The MLP is not compensated to repair house services that fail due to age or the cost of transformers. Failures due to age are typically direct buried electrical lines installed fifty or more years ago. Historically 15 to 20 "burnt-out" services need to be replaced every year. The breakdown is in Section 4-8.

400, 600, and 800 AMP Services **$395,529**

A majority of the homes demolished in Wellesley request an upgraded service when the new house is built. Electrification and electric vehicle charging stations are also contributing to larger service upgrades. The MLP installs on the order of 50 services of 400 AMP or higher each year. Based on a review of the five-year trend, the MLP is projecting an expenditure of $395,529 in FY22. The details are in Section 4-8.

SCADA Upgrades **$40,000**

Each year the MLP identifies opportunities and needs to upgrade SCADA systems and components to keep pace with improvements and expansion of the distribution system. For FY22, the staff will be doing some SCADA RTU upgrades to Station 41 and Station 378 to be able to monitor these two substations more effectively. Details are in Section 4-8.

Outage Management System & GIS Circuit Maps **$110,000**

With information technology advancing every year, the MLP is looking to get the services and software platform necessary for an Outage Management System ("OMS"). In conjunction, the MLP will look to migrate its electrical circuit maps to a GIS-based platform that can be integrated with the OMS. These two combined platforms and the addition of AMI will allow the MLP to get quicker outage notifications, provide web-based public updates regarding outage situations, and maintain more effective and updatable electrical circuit maps. We will have the capability of viewing circuit maps electronically, if necessary, instead of paper form. Details are in Section 4-8.

General Plant **$50,000**

There are several capital costs that the MLP incurs on an annual and one-time basis that are part of the General Plant, and not included in any other category of the FY22 Capital Work Plan. Historically the MLP has not expended the budgeted amount in this category but has included these costs to cover unforeseen expenses. These costs are detailed below and include:

Tools – purchase of replacements tools and line equipment used in construction and maintenance of all distribution and substation facilities. In FY22 MLP will continue the replacement of automated external defibrillators (AEDs). Estimated annual cost: $20,000.

Laboratory Equipment – Includes the purchase of electrical testing and recording equipment, utilized by line workers, substation operators, and engineering staff. This equipment includes low voltage and high voltage voltmeters and ammeters used in the field daily. Also included are voltage recorders which are used to solve customer problems as well as natural gas detection monitors. Estimated cost: $2,000.

Communications Equipment – Contains the purchase, installation, and maintenance of vehicle and base station radio units. The WMLP uses VHF for its substation and line operations communication and relies heavily on our radio equipment in emergencies. For FY22, this is expected to include the addition of equipment at the Pierce Reservoir. Estimated annual cost: $12,000.

Office Furniture and Equipment – For the purchase of computers, bookcases, desks, chairs, and other office supplies and related equipment. Estimated annual cost: $12,000.

Miscellaneous – Includes the cost of equipment and apparatus not classified within any of the other four General Plant categories. Estimated cost: $4,000.

Other Capital Investments **$15,000**

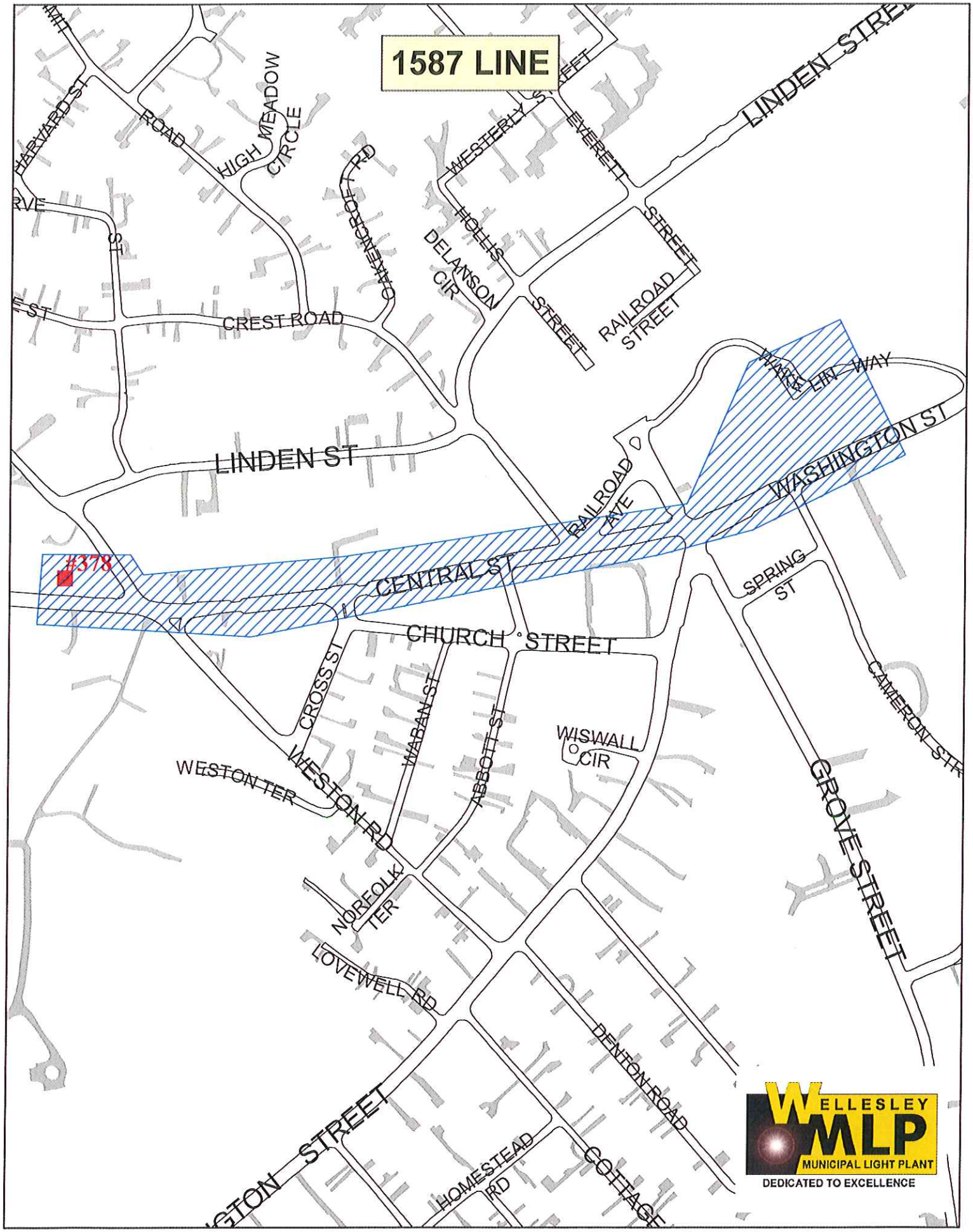
The FY22 Capital Plan includes smaller equipment that the Federal Energy Regulatory Commission Uniform System of Accounting requires to be capitalized. These purchases are necessary for the operation of the MLP's electrical distribution infrastructure, customer billing, and store purchases. Included in Section 4-8.

WELLESLEY MUNICIPAL LIGHT PLANT
Fiscal Year 2022 Capital Work Plan
Advanced Meter Infrastructure

NO.	ITEM	QTY.	UNITS	UNIT COSTS					ITEM COSTS			TOTAL	MAN HOURS
				MATERIAL / SERVICES	TRUCK HOURS	TRUCKS	MAN HOURS	LABOR	MATERIAL / SERVICES	TRUCKS	LABOR		
1	New AMI meters	3,417	EA	$150	0.5	$5	0.5	$50	$512,500	$17,083	$170,833	$700,417	1,708
2	AMI communications network	1	EA	$750,000	0.0	$0	0.0	$0	$750,000	$0	$0	$750,000	0
3	AMI "backend" integration with Munis, etc	1	EA	$250,000	0.0	$0	0.0	$0	$250,000	$0	$0	$250,000	0
	PAGE TOTAL								**$1,512,500**	**$17,083**	**$170,833**	**$1,700,417**	**1,708**

WELLESLEY MUNICIPAL LIGHT PLANT
Fiscal Year 2022 Capital Work Plan
1587 Line Underground Expansion

NO.	ITEM	QTY.	UNITS	UNIT COSTS					ITEM COSTS			TOTAL	MAN
				MATERIAL /	TRUCK	TRUCKS	MAN	LABOR	MATERIAL /	TRUCKS	LABOR		
1	1000' 500 MCM 3-Phase EPR	1	EA	$40,000	60.0	$1,800	96.0	$9,600	$40,000	$1,800	$9,600	$51,400	96
2	3000' 350 MCM 3-Phase EPR	1	EA	$90,000	115.0	$3,450	192.0	$19,200	$90,000	$3,450	$19,200	$112,650	192
3	3000' 1/0 3-Phase EPR	1	EA	$45,000	153.0	$4,590	255.0	$25,500	$45,000	$4,590	$25,500	$75,090	255
4	Install Padmount Transformers	8	EA	$1,000	6.0	$180	12.0	$1,200	$8,000	$180	$9,600	$17,780	96
5	Install Loadbreak Elbows	48	EA	$50	2.0	$60	4.0	$400	$2,400	$60	$19,200	$21,660	192
6	Elastimold Wye Splices	24	EA	$700	4.0	$120	8.0	$800	$16,800	$120	$19,200	$36,120	192
7	Rachem Straight Splices	18	EA	$300	4.0	$120	8.0	$800	$5,400	$120	$14,400	$19,920	144
8	Switching	1	EA	$0	32.0	$960	64.0	$6,400	$0	$960	$6,400	$7,360	64
9	Cleaning and Racking Manholes	15	EA	$200	1.0	$30	2.0	$200	$3,000	$30	$3,000	$6,030	30
10	Police Detail	32	DAYS	$512		$0		$0	$16,384	$0	$0	$16,384	0
99	*FY21 Work Performed Reduction*								*$89,997*	*$2,248*	*$49,997*	*$142,242*	*500*
	PAGE TOTAL								**$136,987**	**$9,062**	**$76,103**	**$222,152**	**761**


1587 LINE
HARVARD ST
ROAD
HIGH MEADOW CIRCLE
CLEMENCROFT RD
WESTERLY ST
EVERETT STREET
LINDEN STREET
HOLLIS
DELANSON CIR
STREET
RAILROAD STREET
CREST ROAD
LINDEN ST
PEARL LIN WAY
WASHINGTON ST
RAILROAD AVE
CENTRAL ST
#378
SPRING ST
CHURCH STREET
CROSS ST
WABAN ST
ABBOTT ST
WISWALL CIR
CAMERON STR
WESTON TER
WESTON RD
GROVE STREET
NORFOLK TER
LOVEWELL RD
DENTON ROAD
HOMESTEAD RD
COTTAGE
WELLESLEY MLP
MUNICIPAL LIGHT PLANT
DEDICATED TO EXCELLENCE

WELLESLEY MUNICIPAL LIGHT PLANT
Fiscal Year 2022 Capital Work Plan
Small Cell Project

NO.	ITEM	QTY.	UNITS	UNIT COSTS					ITEM COSTS			TOTAL	MAN HOURS
				MATERIAL / SERVICES	TRUCK HOURS	TRUCKS	MAN HOURS	LABOR	MATERIAL / SERVICES	TRUCKS	LABOR		
1	Dropping and Re-hanging Splice Cases	35	EA	$10	2.0	$60	4.0	$400	$350	$2,100	$14,000	$16,450	140
2	Splicing from Node to Hub	35	EA	$500	16.0	$480	16.0	$1,600	$17,500	$16,800	$56,000	$90,300	560
3	Provide and Splice 4 LC Pigtails	35	EA	$500	0.0	$0	0.0	$0	$17,500	$0	$0	$17,500	0
4	Police Detail	30	DAYS	$400	0.0	$0	0.0	$0	$12,000	$0	$0	$12,000	0
5	Provide Electricity	35	EA	$20	1.7	$50	3.1	$309	$700	$1,750	$10,818	$13,268	108
6	Install Antenna and Radio	35	EA	$50	8.0	$240	16.0	$1,600	$1,750	$8,400	$56,000	$66,150	560
7	Install and Splice Fiber	35	EA	$2,500	25.0	$750	50.0	$5,000	$87,500	$26,250	$175,000	$288,750	1,750
	PAGE TOTAL								$137,300	$55,300	$311,818	$504,418	3,118

WELLESLEY MUNICIPAL LIGHT PLANT
Fiscal Year 2022 Capital Work Plan
Internet Expansion

NO.	ITEM	QTY.	UNITS	UNIT COSTS					ITEM COSTS			TOTAL	HOURS
				SERVICES	HOURS	TRUCKS	HOURS	LABOR	SERVICES	TRUCKS	LABOR		
1	Install 4" PVC Conduit	500	FT	$40	0.00	$0	0.00	$0	$20,000	$0	$0	$20,000	0
2	Dress Poles	50	EA	$100	1.00	$30	2.00	$200	$5,000	$1,500	$10,000	$16,500	100
3	Install Pull Ropes	50	EA	$100	1.00	$30	1.00	$100	$5,000	$1,500	$5,000	$11,500	50
4	Dead-ending / Slack Loops	10	EA	$500	2.65	$80	5.30	$530	$5,000	$795	$5,300	$11,095	53
5	Splicing	1	EA	$50,000	0.00	$0	0.00	$0	$50,000	$0	$0	$50,000	0
6	Install Internet Service and ONT	50	EA	$300	0.50	$15	1.00	$100	$15,000	$750	$5,000	$20,750	50
7	Install Fiber Optic Cable (12 Strand)	1,875	FT	$1	0.06	$2	0.06	$6	$1,125	$3,375	$11,025	$15,525	110
8	Install Fiber Optic Cable (72 Strand)	3,250	FT	$1	0.04	$1	0.04	$4	$2,275	$3,900	$11,440	$17,615	114
9	Install Fiber Optic Cable (144 Strand) OH	3,750	FT	$2	0.04	$1	0.04	$4	$5,625	$4,500	$13,200	$23,325	132
10	Install Fiber Optic Cable (288 Strand) OH	3,750	FT	$2	0.04	$1	0.04	$4	$8,438	$4,500	$13,200	$26,138	132
11	Install Fiber Optic Cable (144 Strand) UG	3,750	FT	$2	0.04	$1	0.04	$4	$6,563	$4,500	$13,200	$24,263	132
12	Install Fiber Optic Cable (288 Strand) UG	3,750	FT	$3	0.04	$1	0.04	$4	$9,375	$4,500	$13,200	$27,075	132
13	Police Detail	20	DAYS	$512				$0	$10,240	$0	$0	$10,240	0
	PAGE TOTAL								**$143,640**	**$29,820**	**$100,565**	**$274,025**	**$1,006**

WELLESLEY MUNICIPAL LIGHT PLANT
Fiscal Year 2022 Capital Work Plan
Annual Pole Replacements

NO.	ITEM	QTY.	UNITS	UNIT COSTS					ITEM COSTS			TOTAL	MAN HOURS
				MATERIAL / SERVICES	TRUCK HOURS	TRUCKS	MAN HOURS	LABOR	MATERIAL / SERVICES	TRUCKS	LABOR		
1	Install 40' CL2 Pole	50	EA	$400	20.0	$600	24.0	$2,400	$20,000	$30,000	$120,000	$170,000	1,200
2	Transfer House Service & Streetlights	100	EA	$40	1.5	$45	3.0	$300	$4,000	$4,500	$30,000	$38,500	300
3	Top Old Pole / Remove Deadwood	50	EA	$0	1.0	$30	4.0	$400	$0	$1,500	$20,000	$21,500	200
4	Frame Pole for Three Phase Primary	50	EA	$275	6.0	$180	12.0	$1,200	$13,750	$9,000	$60,000	$82,750	600
5	Police Detail	25	DAYS	$512		$0		$0	$12,800	$0	$0	$12,800	0
	PAGE TOTAL								$50,550	$45,000	$230,000	$325,550	2,300

WELLESLEY MUNICIPAL LIGHT PLANT
Fiscal Year 2022 Capital Work Plan
Transformer Upgrades and New Purchases

NO.	ITEM	QTY.	UNITS	UNIT COSTS					ITEM COSTS			TOTAL	MAN HOURS
				MATERIAL / SERVICES	TRUCK HOURS	TRUCKS	MAN HOURS	LABOR	MATERIAL / SERVICES	TRUCKS	LABOR		
1	Set New Poles (WMLP)	10	EA	$400	12.0	$360	24.0	$2,400	$4,000	$3,600	$24,000	$31,600	240
2	Frame Pole for Single Phase Primary	10	EA	$225	2.0	$60	4.0	$400	$2,250	$600	$4,000	$6,850	40
3	Install Single Phase Transformer	10	EA	$225	6.0	$180	12.0	$1,200	$2,250	$1,800	$12,000	$16,050	120
4	Install Guy	3	EA	$275	1.0	$30	2.0	$200	$825	$90	$600	$1,515	6
5	Transfer House Services	10	EA	$50	1.0	$30	2.0	$200	$500	$300	$2,000	$2,800	20
6	Transfer Street Lights	5	EA	$25	1.0	$30	2.0	$200	$125	$150	$1,000	$1,275	10
7	Top Old Poles	10	EA	$0	1.0	$30	2.0	$200	$0	$300	$2,000	$2,300	20
8	Transformer Purchases - Overhead	77	EA	$2,500		$0		$0	$192,500	$0	$0	$192,500	0
9	Transformer Purchases - Underground	10	EA	$17,500		$0		$0	$175,000	$0	$0	$175,000	0
10	Police Detail	6	DAYS	$512		$0		$0	$3,072	$0	$0	$3,072	0
	PAGE TOTAL								**$380,522**	**$6,840**	**$45,600**	**$432,962**	**456**

WELLESLEY MUNICIPAL LIGHT PLANT
Fiscal Year 2022 Capital Work Plan
Other Capital Work

NO.	ITEM	QTY.	UNITS	UNIT COSTS					ITEM COSTS				
				MATERIAL / SERVICES	TRUCK HOURS	TRUCKS	MAN HOURS	LABOR	MATERIAL / SERVICES	TRUCKS	LABOR	TOTAL	MAN HOURS
1	Additional Overhead Work	1	EA	$86,625	250.0	$7,500	588.0	$58,800	$86,625	$7,500	$58,800	$152,925	588
2	Additional Underground Work	1	EA	$86,625	250.0	$7,500	588.0	$58,800	$86,625	$7,500	$58,800	$152,925	588
3	Customer Related Work	1	EA	$123,475	450.0	$13,500	1059.0	$105,900	$123,475	$13,500	$105,900	$242,875	1,059
4	200 Amp Services	1	EA	$222,805	679.0	$20,370	1600.0	$160,000	$222,805	$20,370	$160,000	$403,175	1,600
5	400 / 600 Amp Services	1	EA	$181,319	807.0	$24,210	1900.0	$190,000	$181,319	$24,210	$190,000	$395,529	1,900
7	Street Lighting	1	EA	$37,265	66.0	$1,980	155.0	$15,500	$37,265	$1,980	$15,500	$54,745	155
8	Vehicle Replacement 6,160,162	1	EA	$150,000	0.0	$0	0.0	$0	$150,000	$0	$0	$150,000	0
9	SCADA Upgrades	1	EA	$40,000	0.0	$0	0.0	$0	$40,000	$0	$0	$40,000	0
10	Outage Management System & GIS Circuit Maps	1	EA	$90,000	0.0	$0	200.0	$20,000	$90,000	$0	$20,000	$110,000	200
11	General Plant	1	EA	$50,000	0.0	$0	0.0	$0	$50,000	$0	$0	$50,000	0
12	Small Capital Investments	1	EA	$15,000	0.0	$0	0.0	$0	$15,000	$0	$0	$15,000	0
	PAGE TOTAL								**$1,083,114**	**$75,060**	**$609,000**	**$1,767,174**	**6,090**