



Conor Baldwin
Chief Financial Officer

Heather Varney
Deputy CFO

MEMORANDUM

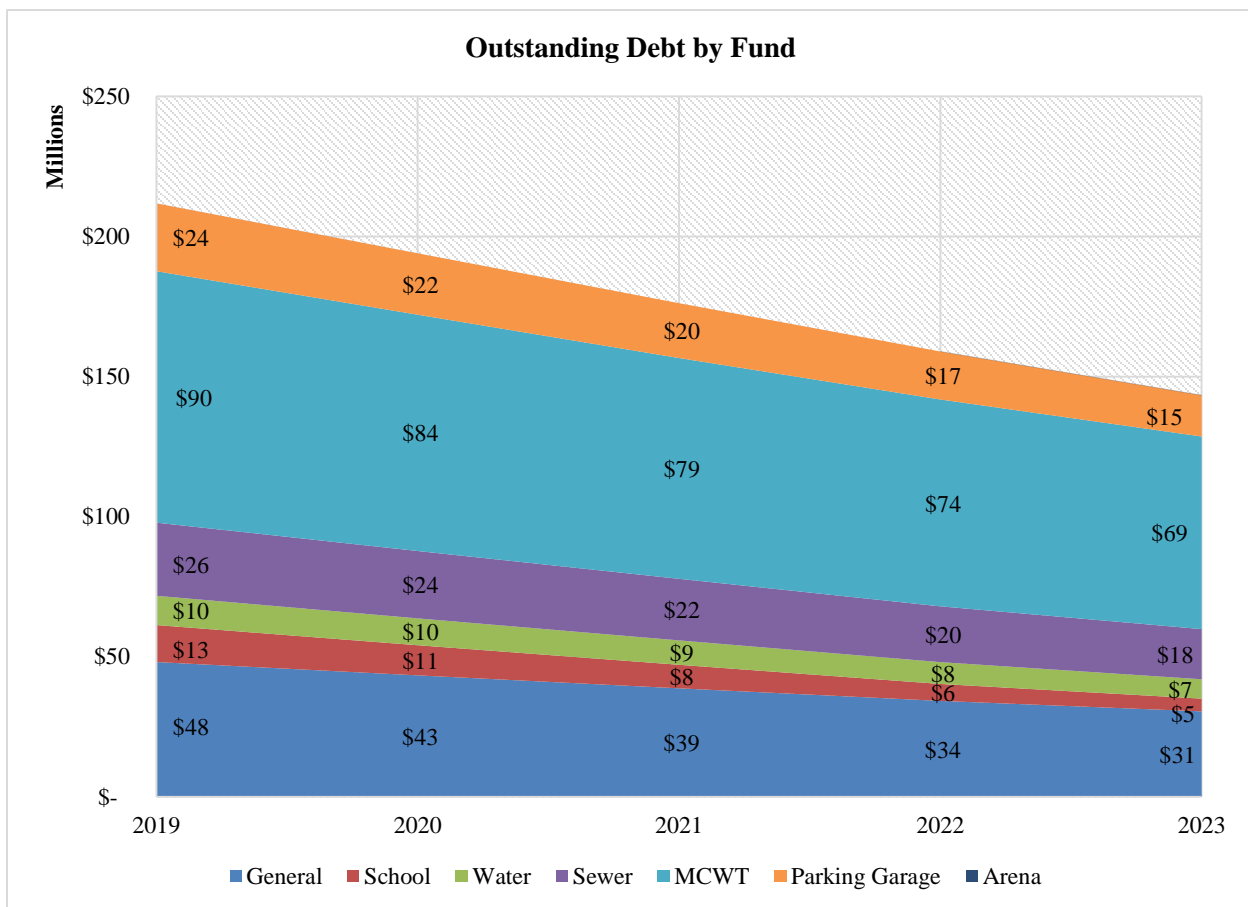
TO: Eileen Donoghue, City Manager

FROM: Conor Baldwin, Chief Financial Officer

DATE: November 28, 2018

SUBJECT: VERBAL REQUEST – C. Elliott – City Mgr. provide a report of the City’s capital needs.

Attached to this memorandum are several documents outlining the city’s outstanding debt from prior projects as well as capital needs for future projects; all of which have an impact on the annual operating budget. These capital needs were the result of a collaborative effort between the finance department and the various city department heads who manage the city’s major assets. The graph below illustrates the outstanding debt as of June 30, 2018 for all city funds.





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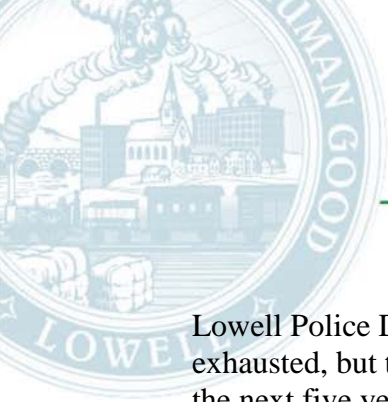
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The general debt issuance for the city covers a large range of projects, many of which are incorporated annually into the five year capital plan. These are not limited to building improvement projects at municipal facilities such as schools, the library, City Hall, Lowell Memorial Auditorium, Fire department roofs, the Police holding cell/ locker room as well as school construction projects. It also includes issuance of bonds for improving public roads, parks, traffic signalization, bridges, the river walk, street lighting upgrade and LeLacheur Park. In addition to municipal facilities and public areas, the capital plan also funds the purchase of vehicles such as fire apparatus and heavy equipment and machinery like sanders.

The enterprise funds also issue debt to pay for projects, but these issuances are required to be recorded separately for the purpose of an enterprise account is to have the users pay for the services. The Parking department has issued debt for taxable parking, parking garage improvements, parking kiosks, as well as the current HCID Garage design and construction. The Water department has issued debt for utility system upgrades, the water treatment plant, water mains, water meters, and residual lagoon treatment. The Wastewater Utility has issued debt for wastewater treatment plants, sewer repairs, sewer separation, as well as for system improvements. The Massachusetts Clean Water Trust (MCWT) was established in 1989 and has partnered with the Massachusetts Department of Environmental Protection (MassDEP) to help develop and finance water infrastructure projects across the commonwealth. The MCWT enables municipalities to leverage the purchasing power of multiple communities to obtain better lending rates. The MCWT has issued debt for Lowell for both Water and Wastewater Utilities. Attached is an in-depth overview of the aggregate debt service for the city at the beginning of FY19.

On June 12, 2018, the City Council voted to endorse the 5-year capital plan and approved a \$9,903,391 loan order to fund the first year of the plan. A copy of the matrix is also attached, which includes all projects programmed in the 5-year plan, their total estimated cost (in FY18 dollars), and the projected year of authorization. In total, the capital plan represents approximately \$45.4 million in investments. Between FY19 and FY23, approximately \$15 million was programmed for building improvements, \$472,510 for departmental equipment, \$19.1 million for roads & sidewalks, and \$2.8 million for park & field improvements. In addition to these projects, approximately \$5 million was programmed for vehicles.

Several other major projects have been authorized for funding, but are outside of the formal capital plan. Nevertheless, the debt service related to those projects will impact the city's operating budget in the medium and long term. For example, the City Council approved a \$2.6 million loan order on March 2, 2016 to fund the city's share of a match requirement for the \$13.6 million federal TIGER grant and another \$3.6 million to meet the final bid price on January 24, 2018. The \$2.6 million is inclusive of UMass Lowell's contribution, which will reimburse the city, annually, for the life of the bond. A \$500,000 loan order was also authorized by the City Council on October 26, 2016 to finance the purchase of cameras throughout the city by the



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Lowell Police Department. The borrowing authority from these loan orders has not been fully exhausted, but the projects are ongoing and the debt service will come online over the course of the next five years. Furthermore, on February 27, 2017, the City Council rescinded a number of so-called “authorized, but unissued” loan orders, totaling approximately \$20.8 million. This legislative action was a fiscally prudent measure taken by the Council in anticipation of the loan order for the Lowell High School project.

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Finally, the projected debt service schedules related to the Lowell High School project, based on the projected local share of Option 3A voted by the School Building Committee and the City Council have been incorporated into the city’s five year forecast to demonstrate the impact on the operating budget. The debt service assumptions were compiled in collaboration with our financial advisors based on current market conditions. The forecasts are enclosed with this memorandum for discussion purposes.

City of Lowell, Massachusetts
 Total Long-Term Debt Outstanding Projected as of June 30, 2018

Aggregate Debt Service

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Date	Principal	Interest	Total P+I
06/30/2018	-	-	-
06/30/2019	16,424,136.73	7,668,809.82	24,092,946.55
06/30/2020	17,822,079.27	7,055,913.10	24,877,992.37
06/30/2021	17,802,032.34	6,327,799.07	24,129,831.41
06/30/2022	17,234,045.14	5,654,107.43	22,888,152.57
06/30/2023	15,608,159.52	4,995,606.46	20,603,765.98
06/30/2024	13,929,428.30	4,421,216.50	18,350,644.80
06/30/2025	14,127,902.92	3,899,531.68	18,027,434.60
06/30/2026	13,103,625.84	3,410,883.07	16,514,508.91
06/30/2027	12,986,300.07	2,930,568.74	15,916,868.81
06/30/2028	12,843,223.04	2,450,481.62	15,293,704.66
06/30/2029	10,256,263.04	2,041,895.53	12,298,158.57
06/30/2030	9,924,299.91	1,709,506.39	11,633,806.30
06/30/2031	8,700,919.90	1,395,664.85	10,096,584.75
06/30/2032	7,432,365.14	1,170,107.00	8,602,472.14
06/30/2033	6,743,702.96	974,349.87	7,718,052.83
06/30/2034	6,254,133.15	792,674.00	7,046,807.15
06/30/2035	5,967,940.16	627,543.68	6,595,483.84
06/30/2036	5,854,170.60	471,242.06	6,325,412.66
06/30/2037	4,326,636.39	339,570.06	4,666,206.45
06/30/2038	3,297,874.64	235,504.19	3,533,378.83
06/30/2039	2,718,507.51	149,272.61	2,867,780.12
06/30/2040	1,585,069.35	97,745.76	1,682,815.11
06/30/2041	1,624,550.90	59,471.63	1,684,022.53
06/30/2042	835,315.31	30,200.71	865,516.02
06/30/2043	856,633.73	10,151.11	866,784.84
Total	\$228,259,315.86	\$58,919,816.94	\$287,179,132.80

Par Amounts Of Selected Issues

August 25 2004 MWPAT Water DW 99-21 (O).....	2,005,000.00
August 25 2004 MWPAT CW-01-16 Sewer (I).....	1,670,000.00
November 16 2005 MWPAT DW-03-7A (O).....	2,125,161.00
September 15 2006 B Taxable Parking (ISQ).....	3,925,000.00
December 14 2006 MWPAT DW-03-07B (O).....	1,241,152.00
December 14 2006 MWPAT DW-03-07 Water (O).....	1,015,000.00
December 14 2006 MWPAT DW-99-21 Water (O).....	225,000.00
December 14 2006 MWPAT CW-03-22 Sewer (I).....	2,165,000.00
February 15 2007 MWPAT CW-05-23 (I).....	4,521,111.87
December 18 2007 MWPAT DW-04-01 (O).....	1,821,117.00
September 15 2008 -Morey School (ISQ).....	825,000.00
September 15 2008 -Land Acquisition (ISQ).....	605,000.00
September 15 2008 -Ice Arena (ISQ).....	20,000.00
September 15 2008 -Wastewater Treatment (ISSSQ).....	940,000.00
September 15 2008 -Sewer (ISSSQ).....	495,000.00
December 9 2008 MWPAT CW-03-22A (I).....	43,962.78
March 18 2009 MWPAT CW-06-28 (I).....	8,556,123.00
March 18 2009 MWPAT CW-05-23-A (I).....	369,147.00
September 15 2009 Series A -Bridge Improvements (ISQ).....	120,000.00
September 15 2009 Series A -Lowell Memorial Auditorium 1 (ISQ).....	840,000.00
September 15 2009 Series A -Public Safety Center (ISQ).....	900,000.00
September 15 2009 Series A -Remodeling, Rec.& Equip. (ISQ).....	1,500,000.00
September 15 2009 Series A -Lowell Memorial Auditorium 2 (ISQ).....	75,000.00
September 15 2009 Series A -Morey School (ISQ).....	420,000.00
September 15 2009 Series A -Sewer & CSO (ISQ).....	660,000.00
September 15 2009 Series A -Wastewater Treatment Plant 1 (ISQ).....	120,000.00
September 15 2009 Series A -Water (OSQ).....	600,000.00
September 15 2009 Series A -Sewer (ISQ).....	120,000.00
September 15 2009 Series A -Wastewater Treatment Plant 2 (ISQ).....	1,500,000.00
September 15 2009 Series B TAXABLE -Lowell Memorial Auditorium (ISQ).....	645,000.00
September 15 2009 Series B TAXABLE -Land Acquisition (ISQ).....	850,000.00
December 15 2009 MWPAT CW-05-24 (I) Revised.....	113,436.33
July 8 2010 MWPAT DWS-07-18-A (O).....	5,524,164.00
July 8 2010 MWPAT CWS-08-24 (I).....	6,765,889.00
July 8 2010 MWPAT CWS-08-16 (I).....	7,723,699.00
September 15 2010 -Adv Ref February 1 2002 Library I (ISQ).....	360,000.00
September 15 2010 -Adv Ref February 1 2002 Library II (ISQ).....	455,000.00
September 15 2010 -Adv Ref February 1 2002 Library III (ISQ).....	653,000.00
September 15 2010 -Adv Ref February 1 2002 Parking Garage (ISQ).....	440,000.00
September 15 2010 -Adv Ref February 1 2002 Water (OSQ).....	150,000.00
September 15 2010 -Adv Ref February 1 2002 Sewer (ISQ).....	240,000.00
September 15 2010 -Adv Ref February 1 2002 Land/Building Acq (ISQ).....	160,000.00
September 15 2010 -Adv Ref Feb 1 2002 Pawtucketville/Magnet Sch (OSQ).....	1,862,000.00
September 15 2010 -Adv Ref February 1 2002 Stoklosa School (ISQ).....	760,000.00
September 15 2010 -Adv Ref February 1 2002 School Plans (ISQ).....	160,000.00
September 15 2010 -Public Safety Center 1 (ISQ).....	170,000.00
September 15 2010 -Public Safety Center 2 (ISQ).....	145,000.00
September 15 2010 -Remodeling, Recreation & Equipment 1 (ISQ).....	325,000.00
September 15 2010 -Remodeling, Recreation & Equipment 2 (ISQ).....	130,000.00
September 15 2010 -Remodeling, Recreation & Equipment 3 (ISQ).....	715,000.00
September 15 2010 -Land Acquisition 1 (ISQ).....	210,000.00
September 15 2010 -Water (OSQ).....	715,000.00
September 15 2010 -Sewer 1 (ISQ).....	440,000.00
September 15 2010 -Sewer 2 (ISQ).....	715,000.00
September 15 2010 -Sewer 3 (ISQ).....	195,000.00
September 15 2010 -Wastewater Treatment Plant (ISQ).....	975,000.00
September 15 2010 -Sewer 4 (ISQ).....	3,315,000.00
December 15 2010 RZEDB (taxable).....	5,470,000.00

City of Lowell, Massachusetts

Total Long-Term Debt Outstanding Projected as of June 30, 2018

Aggregate Debt Service

Par Amounts Of Selected Issues

March 15 2011 MWPAT CW-07-23 (I) revised.....	10,352,729.68
March 15 2011 MWPAT DW-07-18 (O) revised.....	1,060,898.58
September 15 2011 -Land Acquisition (ISQ).....	20,000.00
September 15 2011 -LeLacheur Park Improvements (ISQ).....	35,000.00
September 15 2011 -Vehicles (cars, small trucks, SUVs) (ISQ).....	260,000.00
September 15 2011 -Heavy Vehicles (ISQ).....	980,000.00
September 15 2011 -Land Acquisition 2 (ISQ).....	200,000.00
September 15 2011 -Sewer (ISQ).....	2,100,000.00
September 15 2011 -Wastewater Treatment Plant (ISQ).....	700,000.00
September 15 2011 -Rogers School Roof Repair (ISQ).....	420,000.00
December 13 2011 QECB (ISQ).....	1,805,000.00
June 13 2012 MWPAT CWS-08-24-A (I).....	10,541,426.00
September 13 2012 -Adv Ref Oct 15 2003 Sewer (ISQ).....	202,000.00
September 13 2012 -Adv Ref Oct 15 2003 Water Treatment Facility (OSQ).....	158,000.00
September 13 2012 -Adv Ref Oct 15 2003 School Construction (OSQ)*.....	1,675,000.00
September 13 2012 -Adv Ref Oct 15 2003 School Construction 2 (OSQ)*.....	274,000.00
September 13 2012 -Adv Ref Oct 15 2003 School Construction (ISQ)*.....	179,000.00
September 13 2012 -Adv Ref Oct 15 2003 Urban Renewal (OSQ).....	92,000.00
September 13 2012 -Land Acquisition (ISQ).....	535,000.00
September 13 2012 -Remodeling, Recreation, Equip. (ISQ).....	230,000.00
September 13 2012 -Energy Conservation (ISQ).....	5,150,000.00
September 13 2012 -Rogers School Roof (ISQ).....	10,000.00
September 13 2012 -Roads and Sidewalks (ISQ).....	25,000.00
September 13 2012 -High School Door Replacement (ISQ).....	175,000.00
September 13 2012 -Water (OSQ).....	550,000.00
September 13 2012 -School - Green Repair (ISQ).....	750,000.00
May 22 2013 MWPAT CW-08-24 (I).....	1,015,895.00
September 12 2013 resized 2 -High School Green Repair (ISQ).....	695,000.00
September 12 2013 resized 2 -School HVAC Renovations (ISQ).....	430,000.00
September 12 2013 resized 2 -School Construction (ISQ).....	560,000.00
September 12 2013 resized 2 -Water Utility System Upgrade (OSQ).....	400,000.00
September 12 2013 resized 2 -Sewer (ISQ).....	4,110,000.00
September 12 2013 resized 2 -Public Safety Center (ISQ).....	15,000.00
September 12 2013 resized 2 -LaLacheur Park Improvements (ISQ).....	270,000.00
September 12 2013 resized 2 -City Hall Windows (ISQ).....	55,000.00
September 12 2013 resized 2 -Paving (ISQ).....	60,000.00
September 12 2013 resized 2 -Sidewalks & Curbs (ISQ).....	5,000.00
September 12 2013 resized 2 -Traffic Signalization (ISQ).....	15,000.00
September 12 2013 resized 2 -DPW Heavy Vehicle (ISQ).....	100,000.00
September 12 2013 resized 2 -Parking Kiosks (ISQ).....	260,000.00
September 12 2013 resized 2 -Heavy Vehicles (ISQ).....	140,000.00
May 30 2014 MWPAT CW-07-23-A (I).....	246,992.77
May 30 2014 MWPAT DWS-07-18-B (O).....	1,657,983.66
May 30 2014 MWPAT CW-08-16 (I).....	5,548,182.22
March 17 2015 -Adv Ref 9-15-06 A High School (ISQ).....	390,000.00
March 17 2015 -Adv Ref 9-15-06 A Middle School (ISQ).....	284,800.00
March 17 2015 -Adv Ref 9-15-06 A Martin Sports Complex (ISQ).....	25,200.00
March 17 2015 -Adv Ref 9-15-06 A Parking Garage (ISQ).....	13,080,000.00
May 14 2015 MCWT DWP-11-21 (O).....	1,360,635.44
September 1 2015 -Cur Ref of Oct 15 03- Sewer (ISQ).....	271,000.00
September 1 2015 -Cur Ref of Oct 15 03- Water Treatment Plant (OSQ).....	188,000.00
September 1 2015 -Cur Ref of Oct 15 03- School Construction (OSQ).....	2,073,000.00
September 1 2015 -Cur Ref of Oct 15 03- School Construction 2 (OSQ).....	341,000.00
September 1 2015 -Cur Ref of Oct 15 03- School Construction (ISQ).....	222,000.00
September 1 2015 -Cur Ref of Oct 15 03- Urban Renewal Housing (OSQ).....	110,000.00
September 1 2015 -Streetlight Equipment (ISQ).....	45,000.00
September 1 2015 -Public Safety Center (ISQ).....	15,000.00
September 1 2015 -Energy Conservation (ISQ).....	1,575,000.00
September 1 2015 -LaLecheur Park Improvements (ISQ).....	120,000.00
September 1 2015 -Land Acquisition (ISQ).....	255,000.00
September 1 2015 -City Hall Windows (ISQ).....	280,000.00
September 1 2015 -Sidewalks and Curbing (ISQ).....	10,000.00
September 1 2015 -Traffic Signalization 1A (ISQ).....	20,000.00
September 1 2015 -Traffic Signalization 1B (ISQ).....	60,000.00
September 1 2015 -Building Improvements 1 (ISQ).....	1,615,000.00
September 1 2015 -Building Improvements 2 (ISQ).....	3,965,000.00
September 1 2015 -Traffic Signalization 2A (ISQ).....	80,000.00
September 1 2015 -Traffic Signalization 2B (ISQ).....	1,410,000.00
September 1 2015 -Paving, Sidewalks and Curbing 1 (ISQ).....	765,000.00
September 1 2015 -Paving, Sidewalks and Curbing 2 (ISQ).....	180,000.00
September 1 2015 -Pick-up Trucks (ISQ).....	70,000.00
September 1 2015 -SUVs (ISQ).....	35,000.00
September 1 2015 -Dump/Sander Trucks (ISQ).....	425,000.00
September 1 2015 -Skid Steers (ISQ).....	55,000.00
September 1 2015 -Vacuum (ISQ).....	30,000.00
September 1 2015 -Industrial Mower (ISQ).....	75,000.00
September 1 2015 -Backhoe (ISQ).....	65,000.00
September 1 2015 -Fire Station Roof (ISQ).....	265,000.00
September 1 2015 -Fire Department Turnout Gear (ISQ).....	75,000.00
September 1 2015 -Fire Department Rescue Gear (ISQ).....	40,000.00
September 1 2015 -Various Vehicles 1 (ISQ).....	780,000.00
September 1 2015 -Various Vehicles 2 (ISQ).....	890,000.00
September 1 2015 -Lowell Memorial Auditorium (ISQ).....	270,000.00
September 1 2015 -EPA Remediation (ISQ).....	190,000.00
September 1 2015 -Paving (ISQ).....	1,280,000.00
September 1 2015 -Lawrence Street Bridge (ISQ).....	1,630,000.00
September 1 2015 -Traffic Signalization (ISQ).....	120,000.00
September 1 2015 -High School Green Repair (ISQ).....	1,020,000.00

City of Lowell, Massachusetts
Total Long-Term Debt Outstanding Projected as of June 30, 2018

Aggregate Debt Service

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Par Amounts Of Selected Issues

September 1 2015 -School Water Heaters (ISQ).....	125,000.00
September 1 2015 -School Doors (ISQ).....	40,000.00
September 1 2015 -School Drinking Fountains (ISQ).....	90,000.00
September 1 2015 -School Bathroom Renovations 1 (ISQ).....	325,000.00
September 1 2015 -School Bathroom Renovations 2 (ISQ).....	95,000.00
September 1 2015 -Water Utility System Upgrade (OSQ).....	1,000,000.00
September 1 2015 -Water 1 (OSQ).....	165,000.00
September 1 2015 -Water 2 (OSQ).....	525,000.00
September 1 2015 -Dam Improvements (OSQ).....	380,000.00
September 1 2015 -Water Mains 1 (OSQ).....	430,000.00
September 1 2015 -Water Mains 2 (OSQ).....	2,695,000.00
September 1 2015 -Water Meters 1 (OSQ).....	20,000.00
September 1 2015 -Water Meters 2 (OSQ).....	1,230,000.00
September 1 2015 -Water Treatment Plant (Residual Lagoons) (OSQ).....	1,080,000.00
September 1 2015 -Parking Kiosks (ISQ).....	945,000.00
September 1 2015 -Parking Garage (ISQ).....	6,325,000.00
December 16 2016 MCWT DWP-11-17 (O).....	1,545,320.06
December 20 2016 -Cur Ref Feb 15 2005-Adv Ref Feb 15 00 Water (OSQ).....	266,000.00
December 20 2016 -Adv Ref Sept 15 2007 - Equipment 1 (ISQ).....	879,500.00
December 20 2016 -Adv Ref Sept 15 2007 - Equipment 2 (ISQ).....	148,000.00
December 20 2016 -Adv Ref Sept 15 07 Morey Elem School Plans (ISQ).....	773,500.00
December 20 2016 -Adv Ref Sept 15 2007 - Sewer 1 (OSQ).....	897,500.00
December 20 2016 -Adv Ref Sept 15 2007 - Sewer 2 (OSQ).....	49,000.00
December 20 2016 -Adv Ref Sept 15 2007 - Sewer 3 (OSQ).....	289,500.00
December 20 2016 -Adv Ref Sept 15 2007 - Sewer & CSO (ISQ).....	1,258,500.00
December 20 2016 -Adv Ref Sept 15 2007 - Water Treatment (OSQ).....	723,500.00
April 13 2017 DW-11-21-A (O).....	3,358,661.00
April 13 2017 DWP-13-03 (O).....	9,291,784.00
February 21 2018 MCWT DWP-13-04 (O) Revised.....	3,148,844.47
March 22 2018 -Streetlight Equipment (ISQ).....	27,262.00
March 22 2018 -Energy Conservation (ISQ).....	83,347.00
March 22 2018 -LaLacheur Park Improvements 1 (ISQ).....	85,000.00
March 22 2018 -City Hall Windows (ISQ).....	200,000.00
March 22 2018 -Traffic Signalization 2012 (ISQ).....	116,030.00
March 22 2018 -Fire Station Roof (ISQ).....	13,990.00
March 22 2018 -DPW Heavy Vehicle (ISQ).....	358.00
March 22 2018 -DPW Light Vehicle (ISQ).....	2,000.00
March 22 2018 -Building Improvements 1 (ISQ).....	770,000.00
March 22 2018 -Paving, Sidewalks, Curbing (ISQ).....	354,016.00
March 22 2018 -Pick Up Trucks (ISQ).....	9,009.00
March 22 2018 -Vacuum (ISQ).....	1,092.00
March 22 2018 -Backhoe (ISQ).....	2,500.00
March 22 2018 -Floor Waxer (ISQ).....	32,000.00
March 22 2018 -Bridge Street Node (ISQ).....	69,060.00
March 22 2018 -Traffic Signalization 2015 (ISQ).....	43,651.00
March 22 2018 -Building Improvements 2 (ISQ).....	165,092.00
March 22 2018 -LPD Holding Cell Upgrades (ISQ).....	3,700.00
March 22 2018 -Various Park Improvements (ISQ).....	26,605.00
March 22 2018 -Bridge Repair (ISQ).....	2,330,351.00
March 22 2018 -City-Wide Paving, Curbing & Sidewalks I (ISQ).....	643,882.00
March 22 2018 -City-Wide Paving, Curbing & Sidewalks II (ISQ).....	290,779.00
March 22 2018 -Heavy Equipment/Vehicles (ISQ).....	539,591.00
March 22 2018 -MBTA Parcel Construction- Land Swap (ISQ).....	383,624.00
March 22 2018 -Police HQ Lockerroom Upgrades (ISQ).....	8,100.00
March 22 2018 -Merrimack St Sidewalk Repairs (ISQ).....	42,122.00
March 22 2018 -Andover St Roadway Improvements (ISQ).....	350,000.00
March 22 2018 -Lowell Memorial Auditorium (ISQ).....	11,493.00
March 22 2018 -South Common Improvements (ISQ).....	329,244.00
March 22 2018 -Traffic Signalization 2016 (ISQ).....	41,177.00
March 22 2018 -Various Park Improvements 2 (ISQ).....	220,000.00
March 22 2018 -Lucy Larcom Park/Roadway Improvements (ISQ).....	196,439.00
March 22 2018 -JFK Plaza Repairs (ISQ).....	74,400.00
March 22 2018 -Replace Cobblestone Roadway (ISQ).....	15,275.00
March 22 2018 -Pollard Memorial Library Building (ISQ).....	110,768.00
March 22 2018 -Renovate Fire Stations (ISQ).....	3,233.00
March 22 2018 -DPW Garage Lift (ISQ).....	65,000.00
March 22 2018 -Riverwalk Extension (ISQ).....	9,400.00
March 22 2018 -LaLacheur Park Improvements 2 (ISQ).....	8,590.00
March 22 2018 -Police Dept Camera Equipment (ISQ).....	75,014.00
March 22 2018 -LED Streetlight Conversion (ISQ).....	684,405.00
March 22 2018 -Crawley/Alumni Improvements (ISQ).....	44,069.00
March 22 2018 -South Common Improvements 2 (ISQ).....	233,701.00
March 22 2018 -CAD System (ISQ).....	142,196.00
March 22 2018 -Fire Apparatus (ISQ).....	215,588.00
March 22 2018 -LaLecheur Park Improvements 3 (ISQ).....	548,556.00
March 22 2018 -Parks Vehicle (ISQ).....	53,716.00
March 22 2018 -School Water Heaters (ISQ).....	26,459.00
March 22 2018 -School Compressors (ISQ).....	150,000.00
March 22 2018 -School Roofs (ISQ).....	65,000.00
March 22 2018 -School Doors (ISQ).....	10,000.00
March 22 2018 -School Drinking Fountains (ISQ).....	16,542.00
March 22 2018 -School Tile Replacement (ISQ).....	100,000.00
March 22 2018 -School HVAC Renovations (ISQ).....	83,022.00
March 22 2018 -High School Steam Plant Repairs (ISQ).....	95,000.00
March 22 2018 -Murkland School Fire Alarm (ISQ).....	30,000.00
March 22 2018 -Wastewater System Improvements (OSQ).....	8,567,252.00
March 22 2018 -Hamilton Canal Garage Design (ISQ).....	944,200.00
March 22 2018 -Additional Hamilton Canal Garage Design (ISQ).....	472,100.00
TOTAL.....	228,259,315.86

City of Lowell, Massachusetts
Total Long-Term Debt Outstanding Projected as of June 30, 2018
 General

Aggregate Debt Service

Part 1 of 2

Date	Principal	Interest	Total P+I
06/30/2018	-	-	-
06/30/2019	3,704,700.00	2,224,393.47	5,709,231.55
06/30/2020	4,757,425.00	2,078,220.24	6,630,109.52
06/30/2021	4,620,000.00	1,854,413.88	6,283,996.82
06/30/2022	4,487,000.00	1,653,801.38	5,966,571.72
06/30/2023	3,734,000.00	1,451,721.38	5,028,097.62
06/30/2024	3,680,000.00	1,270,947.01	4,810,347.65
06/30/2025	3,670,000.00	1,093,528.89	4,640,372.43
06/30/2026	3,315,000.00	925,408.89	4,135,113.83
06/30/2027	3,290,000.00	763,015.76	3,967,283.10
06/30/2028	3,200,000.00	603,143.88	3,737,432.62
06/30/2029	3,095,000.00	458,058.88	3,507,891.25
06/30/2030	3,030,000.00	328,126.38	3,334,024.60
06/30/2031	1,985,000.00	207,894.49	2,190,470.56
06/30/2032	1,550,000.00	151,213.88	1,701,213.88
06/30/2033	990,000.00	110,187.62	1,100,187.62
06/30/2034	815,000.00	79,731.25	894,731.25
06/30/2035	810,000.00	53,325.00	863,325.00
06/30/2036	705,000.00	28,625.00	733,625.00
06/30/2037	205,000.00	13,837.50	218,837.50
06/30/2038	205,000.00	6,918.78	211,918.78
Total	\$51,848,125.00	\$15,356,513.56	\$65,664,782.30

Par Amounts Of Selected Issues

September 15 2008 -Land Acquisition (ISQ).....	605,000.00
September 15 2009 Series A -Bridge Improvements (ISQ).....	120,000.00
September 15 2009 Series A -Lowell Memorial Auditorium 1 (ISQ).....	840,000.00
September 15 2009 Series A -Public Safety Center (ISQ).....	900,000.00
September 15 2009 Series A -Remodeling, Rec.& Equip. (ISQ).....	1,500,000.00
September 15 2009 Series A -Lowell Memorial Auditorium 2 (ISQ).....	75,000.00
September 15 2009 Series B TAXABLE -Lowell Memorial Auditorium (ISQ).....	645,000.00
September 15 2009 Series B TAXABLE -Land Acquisition (ISQ).....	850,000.00
September 15 2010 -Adv Ref February 1 2002 Library I (ISQ).....	360,000.00
September 15 2010 -Adv Ref February 1 2002 Library II (ISQ).....	455,000.00
September 15 2010 -Adv Ref February 1 2002 Library III (ISQ).....	653,000.00
September 15 2010 -Adv Ref February 1 2002 Land/Building Acq (ISQ).....	160,000.00
September 15 2010 -Public Safety Center 1 (ISQ).....	170,000.00
September 15 2010 -Public Safety Center 2 (ISQ).....	145,000.00
September 15 2010 -Remodeling, Recreation & Equipment 1 (ISQ).....	325,000.00
September 15 2010 -Remodeling, Recreation & Equipment 2 (ISQ).....	130,000.00
September 15 2010 -Remodeling, Recreation & Equipment 3 (ISQ).....	715,000.00
September 15 2010 -Land Acquisition 1 (ISQ).....	210,000.00
December 15 2010 RZEDB (taxable).....	5,470,000.00
September 15 2011 -Land Acquisition (ISQ).....	20,000.00
September 15 2011 -LeLacheur Park Improvements (ISQ).....	35,000.00
September 15 2011 -Vehicles (cars, small trucks, SUVs) (ISQ).....	260,000.00
September 15 2011 -Heavy Vehicles (ISQ).....	980,000.00
September 15 2011 -Land Acquisition 2 (ISQ).....	200,000.00
December 13 2011 QECB (ISQ).....	1,805,000.00
September 13 2012 -Adv Ref Oct 15 2003 Urban Renewal (OSQ).....	92,000.00
September 13 2012 -Land Acquisition (ISQ).....	535,000.00
September 13 2012 -Remodeling, Recreation, Equip. (ISQ).....	230,000.00
September 13 2012 -Energy Conservation (ISQ).....	5,150,000.00
September 13 2012 -Roads and Sidewalks (ISQ).....	25,000.00
September 12 2013 resized 2 -Public Safety Center (ISQ).....	15,000.00
September 12 2013 resized 2 -LaLacheur Park Improvements (ISQ).....	270,000.00
September 12 2013 resized 2 -City Hall Windows (ISQ).....	55,000.00
September 12 2013 resized 2 -Paving (ISQ).....	60,000.00
September 12 2013 resized 2 -Sidewalks & Curbs (ISQ).....	5,000.00
September 12 2013 resized 2 -Traffic Signalization (ISQ).....	15,000.00
September 12 2013 resized 2 -DPW Heavy Vehicle (ISQ).....	100,000.00
September 12 2013 resized 2 -Heavy Vehicles (ISQ).....	140,000.00
March 17 2015 -Adv Ref 9-15-06 A Martin Sports Complex (ISQ).....	25,200.00
September 1 2015 -Cur Ref of Oct 15 03- Urban Renewal Housing (OSQ).....	110,000.00
September 1 2015 -Streetlight Equipment (ISQ).....	45,000.00
September 1 2015 -Public Safety Center (ISQ).....	15,000.00
September 1 2015 -Energy Conservation (ISQ).....	1,575,000.00
September 1 2015 -LaLecheur Park Improvements (ISQ).....	120,000.00
September 1 2015 -Land Acquisition (ISQ).....	255,000.00
September 1 2015 -City Hall Windows (ISQ).....	280,000.00
September 1 2015 -Sidewalks and Curbing (ISQ).....	10,000.00
September 1 2015 -Traffic Signalization 1A (ISQ).....	20,000.00
September 1 2015 -Traffic Signalization 1B (ISQ).....	60,000.00
September 1 2015 -Building Improvements 1 (ISQ).....	1,615,000.00
September 1 2015 -Building Improvements 2 (ISQ).....	3,965,000.00
September 1 2015 -Traffic Signalization 2A (ISQ).....	80,000.00
September 1 2015 -Traffic Signalization 2B (ISQ).....	1,410,000.00
September 1 2015 -Paving, Sidewalks and Curbing 1 (ISQ).....	765,000.00
September 1 2015 -Paving, Sidewalks and Curbing 2 (ISQ).....	180,000.00

City of Lowell, Massachusetts
Total Long-Term Debt Outstanding Projected as of June 30, 2018
 General

Aggregate Debt Service

Par Amounts Of Selected Issues	Part 2 of 2
September 1 2015 -Pick-up Trucks (ISQ).....	70,000.00
September 1 2015 -SUVs (ISQ).....	35,000.00
September 1 2015 -Dump/Sander Trucks (ISQ).....	425,000.00
September 1 2015 -Skid Steers (ISQ).....	55,000.00
September 1 2015 -Vacuum (ISQ).....	30,000.00
September 1 2015 -Industrial Mower (ISQ).....	75,000.00
September 1 2015 -Backhoe (ISQ).....	65,000.00
September 1 2015 -Fire Station Roof (ISQ).....	265,000.00
September 1 2015 -Fire Department Turnout Gear (ISQ).....	75,000.00
September 1 2015 -Fire Department Rescue Gear (ISQ).....	40,000.00
September 1 2015 -Various Vehicles 1 (ISQ).....	780,000.00
September 1 2015 -Various Vehicles 2 (ISQ).....	890,000.00
September 1 2015 -Lowell Memorial Auditorium (ISQ).....	270,000.00
September 1 2015 -EPA Remediation (ISQ).....	190,000.00
September 1 2015 -Paving (ISQ).....	1,280,000.00
September 1 2015 -Lawrence Street Bridge (ISQ).....	1,630,000.00
September 1 2015 -Traffic Signalization (ISQ).....	120,000.00
December 20 2016 -Adv Ref Sept 15 2007 - Equipment 1 (ISQ).....	879,500.00
December 20 2016 -Adv Ref Sept 15 2007 - Equipment 2 (ISQ).....	148,000.00
March 22 2018 -Streetlight Equipment (ISQ).....	27,262.00
March 22 2018 -Energy Conservation (ISQ).....	83,347.00
March 22 2018 -LaLacheur Park Improvements 1 (ISQ).....	85,000.00
March 22 2018 -City Hall Windows (ISQ).....	200,000.00
March 22 2018 -Traffic Signalization 2012 (ISQ).....	116,030.00
March 22 2018 -Fire Station Roof (ISQ).....	13,990.00
March 22 2018 -DPW Heavy Vehicle (ISQ).....	358.00
March 22 2018 -DPW Light Vehicle (ISQ).....	2,000.00
March 22 2018 -Building Improvements 1 (ISQ).....	770,000.00
March 22 2018 -Paving, Sidewalks, Curbing (ISQ).....	354,016.00
March 22 2018 -Pick Up Trucks (ISQ).....	9,009.00
March 22 2018 -Vacuum (ISQ).....	1,092.00
March 22 2018 -Backhoe (ISQ).....	2,500.00
March 22 2018 -Floor Waxer (ISQ).....	32,000.00
March 22 2018 -Bridge Street Node (ISQ).....	69,060.00
March 22 2018 -Traffic Signalization 2015 (ISQ).....	43,651.00
March 22 2018 -Building Improvements 2 (ISQ).....	165,092.00
March 22 2018 -LPD Holding Cell Upgrades (ISQ).....	3,700.00
March 22 2018 -Various Park Improvements (ISQ).....	26,605.00
March 22 2018 -Bridge Repair (ISQ).....	2,330,351.00
March 22 2018 -City-Wide Paving, Curbing & Sidewalks I (ISQ).....	643,882.00
March 22 2018 -City-Wide Paving, Curbing & Sidewalks II (ISQ).....	290,779.00
March 22 2018 -Heavy Equipment/Vehicles (ISQ).....	539,591.00
March 22 2018 -MBTA Parcel Construction- Land Swap (ISQ).....	383,624.00
March 22 2018 -Police HQ Lockerroom Upgrades (ISQ).....	8,100.00
March 22 2018 -Merrimack St Sidewalk Repairs (ISQ).....	42,122.00
March 22 2018 -Andover St Roadway Improvements (ISQ).....	350,000.00
March 22 2018 -Lowell Memorial Auditorium (ISQ).....	11,493.00
March 22 2018 -South Common Improvements (ISQ).....	329,244.00
March 22 2018 -Traffic Signalization 2016 (ISQ).....	41,177.00
March 22 2018 -Various Park Improvements 2 (ISQ).....	220,000.00
March 22 2018 -Lucy Larcom Park/Roadway Improvements (ISQ).....	196,439.00
March 22 2018 -JFK Plaza Repairs (ISQ).....	74,400.00
March 22 2018 -Replace Cobblestone Roadway (ISQ).....	15,275.00
March 22 2018 -Pollard Memorial Library Building (ISQ).....	110,768.00
March 22 2018 -Renovate Fire Stations (ISQ).....	3,233.00
March 22 2018 -DPW Garage Lift (ISQ).....	65,000.00
March 22 2018 -Riverwalk Extension (ISQ).....	9,400.00
March 22 2018 -LaLacheur Park Improvements 2 (ISQ).....	8,590.00
March 22 2018 -Police Dept Camera Equipment (ISQ).....	75,014.00
March 22 2018 -LED Streetlight Conversion (ISQ).....	684,405.00
March 22 2018 -Crawley/Alumni Improvements (ISQ).....	44,069.00
March 22 2018 -South Common Improvements 2 (ISQ).....	233,701.00
March 22 2018 -CAD System (ISQ).....	142,196.00
March 22 2018 -Fire Apparatus (ISQ).....	215,588.00
March 22 2018 -LaLecheur Park Improvements 3 (ISQ).....	548,556.00
March 22 2018 -Parks Vehicle (ISQ).....	53,716.00
TOTAL	51,848,125.00

City of Lowell, Massachusetts
Total Long-Term Debt Outstanding Projected as of June 30, 2018
 School

Aggregate Debt Service

DATE	PRINCIPAL	INTEREST	TOTAL P+I
06/30/2018	-	-	-
06/30/2019	2,347,300.00	625,675.64	2,972,975.64
06/30/2020	2,445,023.00	529,631.20	2,974,654.20
06/30/2021	2,356,000.00	423,055.04	2,779,055.04
06/30/2022	2,354,000.00	312,465.04	2,666,465.04
06/30/2023	1,506,000.00	221,210.04	1,727,210.04
06/30/2024	537,000.00	174,933.15	711,933.15
06/30/2025	527,000.00	152,712.51	679,712.51
06/30/2026	512,000.00	130,620.01	642,620.01
06/30/2027	506,000.00	108,577.51	614,577.51
06/30/2028	425,000.00	88,030.01	513,030.01
06/30/2029	425,000.00	70,255.65	495,255.65
06/30/2030	335,000.00	55,212.54	390,212.54
06/30/2031	295,000.00	42,710.04	337,710.04
06/30/2032	295,000.00	31,570.06	326,570.06
06/30/2033	260,000.00	20,912.56	280,912.56
06/30/2034	200,000.00	11,800.00	211,800.00
06/30/2035	100,000.00	6,050.00	106,050.00
06/30/2036	95,000.00	2,800.00	97,800.00
06/30/2037	15,000.00	1,012.50	16,012.50
06/30/2038	15,000.00	506.28	15,506.28
Total	\$15,550,323.00	\$3,009,739.78	\$18,560,062.78

Par Amounts Of Selected Issues

September 15 2008 -Morey School (ISQ).....	825,000.00
September 15 2009 Series A -Morey School (ISQ).....	420,000.00
September 15 2010 -Adv Ref Feb 1 2002 Pawtucketville/Magnet Sch (OSQ).....	1,862,000.00
September 15 2010 -Adv Ref February 1 2002 Stoklosa School (ISQ).....	760,000.00
September 15 2010 -Adv Ref February 1 2002 School Plans (ISQ).....	160,000.00
September 15 2011 -Rogers School Roof Repair (ISQ).....	420,000.00
September 13 2012 -Adv Ref Oct 15 2003 School Construction (OSQ).....	1,675,000.00
September 13 2012 -Adv Ref Oct 15 2003 School Construction 2 (OSQ).....	274,000.00
September 13 2012 -Adv Ref Oct 15 2003 School Construction (ISQ).....	179,000.00
September 13 2012 -Rogers School Roof (ISQ).....	10,000.00
September 13 2012 -High School Door Replacement (ISQ).....	175,000.00
September 13 2012 -School - Green Repair (ISQ).....	750,000.00
September 12 2013 resized 2 -High School Green Repair (ISQ).....	695,000.00
September 12 2013 resized 2 -School HVAC Renovations (ISQ).....	430,000.00
September 12 2013 resized 2 -School Construction (ISQ).....	560,000.00
March 17 2015 -Adv Ref 9-15-06 A High School (ISQ).....	390,000.00
March 17 2015 -Adv Ref 9-15-06 A Middle School (ISQ).....	284,800.00
September 1 2015 -Cur Ref of Oct 15 03- School Construction (OSQ).....	2,073,000.00
September 1 2015 -Cur Ref of Oct 15 03- School Construction 2 (OSQ).....	341,000.00
September 1 2015 -Cur Ref of Oct 15 03- School Construction (ISQ).....	222,000.00
September 1 2015 -High School Green Repair (ISQ).....	1,020,000.00
September 1 2015 -School Water Heaters (ISQ).....	125,000.00
September 1 2015 -School Doors (ISQ).....	40,000.00
September 1 2015 -School Drinking Fountains (ISQ).....	90,000.00
September 1 2015 -School Bathroom Renovations 1 (ISQ).....	325,000.00
September 1 2015 -School Bathroom Renovations 2 (ISQ).....	95,000.00
December 20 2016 -Adv Ref Sept 15 07 Morey Elem School Plans (ISQ).....	773,500.00
March 22 2018 -School Water Heaters (ISQ).....	26,459.00
March 22 2018 -School Compressors (ISQ).....	150,000.00
March 22 2018 -School Roofs (ISQ).....	65,000.00
March 22 2018 -School Doors (ISQ).....	10,000.00
March 22 2018 -School Drinking Fountains (ISQ).....	16,542.00
March 22 2018 -School Tile Replacement (ISQ).....	100,000.00
March 22 2018 -School HVAC Renovations (ISQ).....	83,022.00
March 22 2018 -High School Steam Plant Repairs (ISQ).....	95,000.00
March 22 2018 -Murkland School Fire Alarm (ISQ).....	30,000.00
TOTAL.....	15,550,323.00

City of Lowell, Massachusetts
Total Long-Term Debt Outstanding Projected as of June 30, 2018
 Water

Aggregate Debt Service

DATE	PRINCIPAL	INTEREST	TOTAL P+I
06/30/2018	-	-	-
06/30/2019	832,500.00	453,587.52	1,286,087.52
06/30/2020	857,000.00	416,327.52	1,273,327.52
06/30/2021	881,000.00	376,207.52	1,257,207.52
06/30/2022	916,000.00	333,012.52	1,249,012.52
06/30/2023	875,000.00	290,512.52	1,165,512.52
06/30/2024	797,000.00	251,707.52	1,048,707.52
06/30/2025	797,000.00	214,902.52	1,011,902.52
06/30/2026	612,000.00	182,597.52	794,597.52
06/30/2027	612,000.00	154,758.14	766,758.14
06/30/2028	611,000.00	126,920.01	737,920.01
06/30/2029	535,000.00	104,453.14	639,453.14
06/30/2030	530,000.00	87,237.52	617,237.52
06/30/2031	480,000.00	71,006.26	551,006.26
06/30/2032	425,000.00	56,487.52	481,487.52
06/30/2033	425,000.00	42,737.52	467,737.52
06/30/2034	380,000.00	29,468.75	409,468.75
06/30/2035	355,000.00	17,306.25	372,306.25
06/30/2036	355,000.00	5,768.75	360,768.75
Total	\$11,275,500.00	\$3,214,999.02	\$14,490,499.02

Par Amounts Of Selected Issues

September 15 2009 Series A -Water (OSQ).....	600,000.00
September 15 2010 -Adv Ref February 1 2002 Water (OSQ).....	150,000.00
September 15 2010 -Water (OSQ).....	715,000.00
September 13 2012 -Adv Ref Oct 15 2003 Water Treatment Facility (OSQ).....	158,000.00
September 13 2012 -Water (OSQ).....	550,000.00
September 12 2013 resized 2 -Water Utility System Upgrade (OSQ).....	400,000.00
September 1 2015 -Cur Ref of Oct 15 03- Water Treatment Plant (OSQ).....	188,000.00
September 1 2015 -Water Utility System Upgrade (OSQ).....	1,000,000.00
September 1 2015 -Water 1 (OSQ).....	165,000.00
September 1 2015 -Water 2 (OSQ).....	525,000.00
September 1 2015 -Dam Improvements (OSQ).....	380,000.00
September 1 2015 -Water Mains 1 (OSQ).....	430,000.00
September 1 2015 -Water Mains 2 (OSQ).....	2,695,000.00
September 1 2015 -Water Meters 1 (OSQ).....	20,000.00
September 1 2015 -Water Meters 2 (OSQ).....	1,230,000.00
September 1 2015 -Water Treatment Plant (Residual Lagoons) (OSQ).....	1,080,000.00
December 20 2016 -Cur Ref Feb 15 2005-Adv Ref Feb 15 00 Water (OSQ).....	266,000.00
December 20 2016 -Adv Ref Sept 15 2007 - Water Treatment (OSQ).....	723,500.00
TOTAL.....	11,275,500.00

City of Lowell, Massachusetts
Total Long-Term Debt Outstanding Projected as of June 30, 2018
 Sewer

Aggregate Debt Service

Date	Principal	Interest	Total P+I
06/30/2018	-	-	-
06/30/2019	2,060,500.00	1,056,357.53	3,116,857.53
06/30/2020	2,060,552.00	998,767.64	3,059,319.64
06/30/2021	2,063,000.00	912,945.04	2,975,945.04
06/30/2022	2,068,000.00	835,580.04	2,903,580.04
06/30/2023	2,003,700.00	751,160.04	2,754,860.04
06/30/2024	1,911,000.00	675,033.80	2,586,033.80
06/30/2025	1,906,000.00	600,850.06	2,506,850.06
06/30/2026	1,911,000.00	526,285.06	2,437,285.06
06/30/2027	1,907,000.00	449,850.04	2,356,850.04
06/30/2028	1,889,000.00	371,730.02	2,260,730.02
06/30/2029	1,655,000.00	298,018.78	1,953,018.78
06/30/2030	1,485,000.00	231,650.04	1,716,650.04
06/30/2031	1,285,000.00	172,050.02	1,457,050.02
06/30/2032	885,000.00	132,050.00	1,017,050.00
06/30/2033	685,000.00	102,850.00	787,850.00
06/30/2034	685,000.00	76,662.50	761,662.50
06/30/2035	425,000.00	56,312.50	481,312.50
06/30/2036	425,000.00	42,500.00	467,500.00
06/30/2037	425,000.00	28,687.50	453,687.50
06/30/2038	425,000.00	14,343.76	439,343.76
Total	\$28,159,752.00	\$8,333,684.37	\$36,493,436.37

Par Amounts Of Selected Issues

September 15 2008 -Wastewater Treatment (ISSSQ).....	940,000.00
September 15 2008 -Sewer (ISSSQ).....	495,000.00
September 15 2009 Series A -Sewer & CSO (ISQ).....	660,000.00
September 15 2009 Series A -Wastewater Treatment Plant 1 (ISQ).....	120,000.00
September 15 2009 Series A -Sewer (ISQ).....	120,000.00
September 15 2009 Series A -Wastewater Treatment Plant 2 (ISQ).....	1,500,000.00
September 15 2010 -Adv Ref February 1 2002 Sewer (ISQ).....	240,000.00
September 15 2010 -Sewer 1 (ISQ).....	440,000.00
September 15 2010 -Sewer 2 (ISQ).....	715,000.00
September 15 2010 -Sewer 3 (ISQ).....	195,000.00
September 15 2010 -Wastewater Treatment Plant (ISQ).....	975,000.00
September 15 2010 -Sewer 4 (ISQ).....	3,315,000.00
September 15 2011 -Sewer (ISQ).....	2,100,000.00
September 15 2011 -Wastewater Treatment Plant (ISQ).....	700,000.00
September 13 2012 -Adv Ref Oct 15 2003 Sewer (ISQ).....	202,000.00
September 12 2013 resized 2 -Sewer (ISQ).....	4,110,000.00
September 1 2015 -Cur Ref of Oct 15 03- Sewer (ISQ).....	271,000.00
December 20 2016 -Adv Ref Sept 15 2007 - Sewer 1 (OSQ).....	897,500.00
December 20 2016 -Adv Ref Sept 15 2007 - Sewer 2 (OSQ).....	49,000.00
December 20 2016 -Adv Ref Sept 15 2007 - Sewer 3 (OSQ).....	289,500.00
December 20 2016 -Adv Ref Sept 15 2007 - Sewer & CSO (ISQ).....	1,258,500.00
March 22 2018 -Wastewater System Improvements (OSQ).....	8,567,252.00
TOTAL.....	28,159,752.00

City of Lowell, Massachusetts
Total Long-Term Debt Outstanding Projected as of June 30, 2018
MCWT (net of subsidy)

Total Net Debt Service

DATE	PRINCIPAL	INTEREST	MCWT Subsidy	NET NEW D/S
06/30/2018	-	-	-	-
06/30/2019	5,274,136.73	2,236,290.27	(499,912.85)	7,010,514.15
06/30/2020	5,407,079.27	2,070,807.74	(471,188.10)	7,006,698.91
06/30/2021	5,542,032.34	1,916,781.33	(437,047.27)	7,021,766.40
06/30/2022	4,974,045.14	1,777,127.19	(188,416.47)	6,562,755.86
06/30/2023	5,093,159.52	1,642,756.22	(173,569.38)	6,562,346.36
06/30/2024	4,859,428.30	1,513,588.76	(59,131.97)	6,313,885.09
06/30/2025	4,967,902.92	1,395,231.44	(45,520.65)	6,317,613.71
06/30/2026	4,533,625.84	1,297,290.33	-	5,830,916.17
06/30/2027	4,346,300.07	1,200,011.03	-	5,546,311.10
06/30/2028	4,288,223.04	1,104,976.44	-	5,393,199.48
06/30/2029	4,171,263.04	1,011,477.82	-	5,182,740.86
06/30/2030	4,159,299.91	919,048.65	-	5,078,348.56
06/30/2031	4,255,919.90	825,547.78	-	5,081,467.68
06/30/2032	3,867,365.14	734,735.53	-	4,602,100.67
06/30/2033	3,958,702.96	646,659.04	-	4,605,362.00
06/30/2034	3,734,133.15	557,799.00	-	4,291,932.15
06/30/2035	3,822,940.16	471,881.18	-	4,294,821.34
06/30/2036	3,804,170.60	383,910.81	-	4,188,081.41
06/30/2037	3,681,636.39	296,032.56	-	3,977,668.95
06/30/2038	2,652,874.64	213,735.37	-	2,866,610.01
06/30/2039	2,718,507.51	149,272.61	-	2,867,780.12
06/30/2040	1,585,069.35	97,745.76	-	1,682,815.11
06/30/2041	1,624,550.90	59,471.63	-	1,684,022.53
06/30/2042	835,315.31	30,200.71	-	865,516.02
06/30/2043	856,633.73	10,151.11	-	866,784.84
Total	\$95,014,315.86	\$22,562,530.31	(1,874,786.69)	\$115,702,059.48

Par Amounts Of Selected Issues

August 25 2004 MWPAT Water DW 99-21 (O).....	2,005,000.00
August 25 2004 MWPAT CW-01-16 Sewer (I).....	1,670,000.00
November 16 2005 MWPAT DW-03-7A (O).....	2,125,161.00
December 14 2006 MWPAT DW-03-07B (O).....	1,241,152.00
December 14 2006 MWPAT DW-03-07 Water (O).....	1,015,000.00
December 14 2006 MWPAT DW-99-21 Water (O).....	225,000.00
December 14 2006 MWPAT CW-03-22 Sewer (I).....	2,165,000.00
February 15 2007 MWPAT CW-05-23 (I).....	4,521,111.87
December 18 2007 MWPAT DW-04-01 (O).....	1,821,117.00
December 9 2008 MWPAT CW-03-22A (I).....	43,962.78
March 18 2009 MWPAT CW-06-28 (I).....	8,556,123.00
March 18 2009 MWPAT CW-05-23-A (I).....	369,147.00
December 15 2009 MWPAT CW-05-24 (I) Revised.....	113,436.33
July 8 2010 MWPAT DWS-07-18-A (O).....	5,524,164.00
July 8 2010 MWPAT CWS-08-24 (I).....	6,765,889.00
July 8 2010 MWPAT CWS-08-16 (I).....	7,723,699.00
March 15 2011 MWPAT CW-07-23 (I) revised.....	10,352,729.68
March 15 2011 MWPAT DW-07-18 (O) revised.....	1,060,898.58
June 13 2012 MWPAT CWS-08-24-A (I).....	10,541,426.00
May 22 2013 MWPAT CW-08-24 (I).....	1,015,895.00
May 30 2014 MWPAT CW-07-23-A (I).....	246,992.77
May 30 2014 MWPAT DWS-07-18-B (O).....	1,657,983.66
May 30 2014 MWPAT CW-08-16 (I).....	5,548,182.22
May 14 2015 MCWT DWP-11-21 (O).....	1,360,635.44
December 16 2016 MCWT DWP-11-17 (O).....	1,545,320.06
April 13 2017 DW-11-21-A (O).....	3,358,661.00
April 13 2017 DWP-13-03 (O).....	9,291,784.00
February 21 2018 MCWT DWP-13-04 (O) Revised.....	3,148,844.47
TOTAL.....	95,014,315.86

City of Lowell, Massachusetts
Total Long-Term Debt Outstanding Projected as of June 30, 2018
Parking

Aggregate Debt Service

DATE	PRINCIPAL	INTEREST	TOTAL P+I
06/30/2018	-	-	-
06/30/2019	2,200,000.00	1,071,730.39	3,271,730.39
06/30/2020	2,290,000.00	961,633.76	3,251,633.76
06/30/2021	2,335,000.00	844,096.26	3,179,096.26
06/30/2022	2,430,000.00	742,021.26	3,172,021.26
06/30/2023	2,396,300.00	638,246.26	3,034,546.26
06/30/2024	2,145,000.00	535,006.26	2,680,006.26
06/30/2025	2,260,000.00	442,306.26	2,702,306.26
06/30/2026	2,220,000.00	348,681.26	2,568,681.26
06/30/2027	2,325,000.00	254,356.26	2,579,356.26
06/30/2028	2,430,000.00	155,681.26	2,585,681.26
06/30/2029	375,000.00	99,631.26	474,631.26
06/30/2030	385,000.00	88,231.26	473,231.26
06/30/2031	400,000.00	76,456.26	476,456.26
06/30/2032	410,000.00	64,050.01	474,050.01
06/30/2033	425,000.00	51,003.13	476,003.13
06/30/2034	440,000.00	37,212.50	477,212.50
06/30/2035	455,000.00	22,668.75	477,668.75
06/30/2036	470,000.00	7,637.50	477,637.50
Total	\$26,391,300.00	\$6,440,649.90	\$32,831,949.90

Par Amounts Of Selected Issues

September 15 2006 B Taxable Parking (ISQ).....	3,925,000.00
September 15 2010 -Adv Ref February 1 2002 Parking Garage (ISQ).....	440,000.00
September 12 2013 resized 2 -Parking Kiosks (ISQ).....	260,000.00
March 17 2015 -Adv Ref 9-15-06 A Parking Garage (ISQ).....	13,080,000.00
September 1 2015 -Parking Kiosks (ISQ).....	945,000.00
September 1 2015 -Parking Garage (ISQ).....	6,325,000.00
March 22 2018 -Hamilton Canal Garage Design (ISQ).....	944,200.00
March 22 2018 -Additional Hamilton Canal Garage Design (ISQ).....	472,100.00
TOTAL.....	26,391,300.00

City of Lowell, Massachusetts
Total Long-Term Debt Outstanding Projected as of June 30, 2018
Arena

Aggregate Debt Service

DATE	PRINCIPAL	INTEREST	TOTAL P+I
06/30/2018	-	-	-
06/30/2019	5,000.00	775.00	5,775.00
06/30/2020	5,000.00	525.00	5,525.00
06/30/2021	5,000.00	300.00	5,300.00
06/30/2022	5,000.00	100.00	5,100.00
Total	\$20,000.00	\$1,700.00	\$21,700.00

Par Amounts Of Selected Issues

September 15 2008 -Ice Arena (ISQ).....	20,000.00
TOTAL.....	20,000.00

PUBLIC INVESTMENT CAPITAL PLANS

PROPOSED NON-VEHICLE CAPITAL PROJECTS – FIVE YEAR OUTLOOK

Project Number	Project Description	Estimated Cost	2019	2020	2021	2022	2023
2019-01	HCID Garage (Funded by user fees not tax levy)	\$ 35,400,000	\$ 35,400,000				
2019-02	Lord Overpass	\$ 4,000,000	\$ 2,000,000	\$ 2,000,000			
2019-03	Paving- City Wide Street Improvements	\$ 6,600,000	\$ 1,300,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000
2019-04	LHS Roof	\$ 2,500,000	\$ 1,150,000				
2019-05	School Building Repairs	\$ 1,000,000	\$ 1,000,000				
2019-06	Street G Design & Construction	\$ 764,500	\$ 764,500				
2019-07	O'Donnell Baseball Field Remediation	\$ 750,000	\$ 750,000				
2019-08	911 Center Upgrades	\$ 3,610,000	\$ 610,000	\$ 3,000,000			
2019-09	Telephone System Upgrade	\$ 558,461	\$ 558,461				
2019-10	Fire Escape Repair (Various Schools)	\$ 360,000	\$ 360,000				
2019-11	Equipment Replacement	\$ 227,430	\$ 227,430				
2019-12	Renovate & Repair Fire Station - Civic Center	\$ 150,000	\$ 150,000				
2019-13	Tanner Street Realignment Project - ROW Acquisition	\$ 500,000	\$ 150,000	\$ 350,000			
2019-14	Building Remediation	\$ 100,000	\$ 100,000				
2019-15	Larimore Records System Upgrade	\$ 366,963	\$ 89,578				
2019-16	Butler HVAC Roof Unit Replacement	\$ 80,000	\$ 80,000				
2019-17	Time & Attendance Clock	\$ 78,850	\$ 78,850				
2019-18	Fire Station Repairs	\$ 135,000	\$ 75,000	\$ 60,000			
2019-19	Turnout Gear/Rescue Equipment	\$ 197,413	\$ 70,000				
2019-20	Larimore Software Upgrade	\$ 161,561	\$ 63,410				
2019-21	LeLacheur Park Improvements	\$ 50,000	\$ 50,000				
2019-22	VFW at Beaver Brook Remediation	\$ 50,000	\$ 50,000				
2019-23	Westford St. Landfill Compliance	\$ 179,720	\$ 50,000				
2019-24	Sidewalks & Curbing	\$ 300,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000

PUBLIC INVESTMENT CAPITAL PLANS

Project Number	Project Description	Estimated Cost	2019	2020	2021	2022	2023
2020-01	City Bridges (Various - See Project Details)	\$ 3,454,200		\$ 715,000	\$ 2,739,200		
2020-02	Rogers School Roof - Phase II	\$ 750,000		\$ 750,000			
2020-03	South Common Improvement (Phase II Design, Construction)	\$ 982,000		\$ 100,000	\$ 400,000		
2020-04	Old Ferry Fire Station Roof Repair	\$ 500,000		\$ 500,000			
2020-05	Replace Mechanic's Garage/ Purchase Lifts	\$ 440,000		\$ 440,000			
2020-06	Lawrence Street Fire Station Roof Repair	\$ 400,000		\$ 400,000			
2020-07	Green School Roof Repair	\$ 400,000		\$ 400,000			
2020-08	Salt Shed Roof Repair	\$ 285,000		\$ 185,000	\$ 100,000		
2020-09	Middlesex/ School St. Signal Improvements	\$ 225,000		\$ 225,000			
2020-10	Generator - McAuliffe/ Beacon St.	\$ 130,000		\$ 130,000			
2020-11	Fire Alarm - LHS Freshman Building	\$ 120,000		\$ 120,000			
2020-12	Fire Alarm - LHS 1980 Building	\$ 120,000		\$ 120,000			
2020-13	Fire Alarm - LHS 1922 Building	\$ 120,000		\$ 120,000			
2020-14	Lincoln School Generator	\$ 120,000		\$ 120,000			
2020-15	Fire Alarm - J.G. Pyne School	\$ 90,000		\$ 90,000			
2020-16	Restroom Upgrades	\$ 75,000		\$ 75,000			
2020-17	City Hall Flat Roof Repair	\$ 65,000		\$ 65,000			
2020-18	Fire Alarm - McAvinue School	\$ 60,000		\$ 60,000			
2020-19	Fire Alarm - Moody School	\$ 60,000		\$ 60,000			
2020-20	Code Analysis	\$ 25,000		\$ 25,000			

PUBLIC INVESTMENT CAPITAL PLANS

Project Number	Project Description	Estimated Cost	2019	2020	2021	2022	2023
2021-01	HCID Canalway & Parcel 13 Park Construction	\$ 1,500,000			\$ 1,500,000		
2021-02	DPW Admin Building - Roof Replacement	\$ 500,000			\$ 500,000		
2021-03	Renovate Fire Prevention (Mammoth Rd./ Rogers)	\$ 400,000			\$ 400,000		
2021-04	Mt. Vernon St 234-268	\$ 325,000			\$ 325,000		
2021-05	DPW Admin Building - Ventilation System	\$ 300,000			\$ 300,000		
2021-06	DPW Garage Improvements (Ventilation)	\$ 300,000			\$ 300,000		
2021-07	JFK Plaza Repairs	\$ 300,000			\$ 200,000	\$ 100,000	
2021-08	Lower Locks Rehabilitation Design	\$ 250,000			\$ 250,000		
2021-09	Traffic Signalization - Chelmsford/ Liberty St.	\$ 225,000			\$ 225,000		
2021-10	Voting Machine Upgrades	\$ 221,500			\$ 221,500		
2021-11	Voting Booth Upgrades	\$ 200,000			\$ 200,000		
2021-12	Field Lighting - Alumni Field	\$ 200,000			\$ 200,000		
2021-13	Martin Softball Field Improvement	\$ 175,000			\$ 175,000		
2021-14	Generator - Robinson/ June St.	\$ 130,000			\$ 130,000		
2021-15	Poll Pads	\$ 92,225			\$ 92,225		
2021-16	Fire Alarm - Shaughnessy School	\$ 90,000			\$ 90,000		
2021-17	Fire Alarm - Bartlett School	\$ 90,000			\$ 90,000		
2021-18	St. Louis Park Improvements	\$ 80,000			\$ 80,000		
2021-19	Health Department HVAC Repair (Pine St.)	\$ 75,000			\$ 75,000		
2021-20	Gallagher Terminal Transit Oriented Development Master Plan	\$ 75,000			\$ 75,000		
2021-21	Portable Back-up Generator	\$ 65,000			\$ 65,000		
2021-22	Fire Alarm - Lincoln School	\$ 60,000			\$ 60,000		
2021-23	Bartlett School Parking Lot Paving	\$ 60,000			\$ 60,000		
2021-24	SW&R Storage Facility	\$ 58,000			\$ 58,000		
2021-25	Field Lighting - Shedd Park	\$ 50,000			\$ 50,000		
2021-26	Heavy Duty Lift Replacement	\$ 40,000			\$ 40,000		

PUBLIC INVESTMENT CAPITAL PLANS

Project Number	Project Description	Estimated Cost	2019	2020	2021	2022	2023
2022-01	First Street Sidewalks & Guardrails	\$ 900,000				\$ 900,000	
2022-02	DPW Admin Building - Additional Storage	\$ 900,000				\$ 900,000	
2022-04	Carvalho Varsity Soccer Complex Artificial Turf	\$ 550,000				\$ 550,000	
2022-05	Green School Adult Education Restrooms	\$ 400,000				\$ 400,000	
2022-06	Molloy Windows	\$ 320,000				\$ 320,000	
2022-07	Parks Building Metal Roof Repair	\$ 315,000				\$ 315,000	
2022-08	DPW Admin Building - Recycling Center Bay	\$ 300,000				\$ 300,000	
2022-09	Convert/ Retrofit Firing Range to Evidence	\$ 200,000				\$ 200,000	
2022-10	Vehicle Evidence Processing	\$ 200,000				\$ 200,000	
2022-11	Hovey Park Improvements	\$ 194,444				\$ 194,444	
2022-12	Bridge Street Riverwalk Access	\$ 150,000				\$ 150,000	
2022-13	Field Lighting - North Common	\$ 150,000				\$ 150,000	
2022-14	Generator - Shaugnessy/ Gorham St.	\$ 130,000				\$ 130,000	
2022-15	School/Branch St. Signal Improvements	\$ 125,000				\$ 125,000	
2022-16	Middlesex CC Walkway (Lower Locks)	\$ 103,000				\$ 103,000	
2022-17	Field Lighting - Ryan Field	\$ 100,000				\$ 100,000	
2022-18	Father Maguire Park Improvements	\$ 90,000				\$ 90,000	
2022-19	Field Lighting - Campbell Field	\$ 90,000				\$ 90,000	
2022-20	North Common Improvements	\$ 70,000				\$ 70,000	
2022-21	Manning Renovation	\$ 65,000				\$ 65,000	
2022-22	Health Department Paving	\$ 60,000				\$ 60,000	
2022-23	Field Lighting - Olivera/ St. Louis Park	\$ 60,000				\$ 60,000	
2022-24	Repair Robinson School Driveway	\$ 55,000				\$ 55,000	
2022-25	Field Lighting - O'Donnell Park	\$ 40,000				\$ 40,000	

PUBLIC INVESTMENT CAPITAL PLANS

Project Number	Project Description	Estimated Cost	2019	2020	2021	2022	2023
2023-03	Cardinal O'Connell Restrooms	\$ 400,000					\$ 400,000
2023-04	LMA Renovation	\$ 400,000					\$ 400,000
2023-05	LMA Maintenance/ Repairs (Bathroom) LMA Renovations	\$ 800,000					\$ 400,000
2023-06	Cardinal O'Connell Windows	\$ 340,000					\$ 340,000
2023-07	Various School Generator/ Fire Alarms	\$ 310,000					\$ 310,000
2023-08	Green School Adult Education Windows	\$ 300,000					\$ 300,000
2023-09	Security Cameras	\$ 280,000					\$ 280,000
2023-10	City Hall Windows	\$ 227,870					\$ 227,870
2023-11	Field Lighting - Cawley Stadium	\$ 150,000					\$ 150,000
2023-12	O'Donnell Park/ Tennis Court Improvements	\$ 135,000					\$ 135,000
2023-13	Cardinal O'Connell Reuse	\$ 125,000					\$ 125,000
2023-14	Concord River Greenway	\$ 1,670,000					\$ 120,000
2023-15	Campbell Park Improvements	\$ 95,000					\$ 95,000
2023-16	City Wide Bicycle/ Pedestrian Plan	\$ 75,000					\$ 75,000
2023-17	City Hall Remote Switch/Shutoff Boilers	\$ 75,000					\$ 75,000
2023-18	Hadley Field	\$ 65,000					\$ 65,000
2023-19	Topsoil Screening System	\$ 45,000					\$ 45,000
2023-20	Bartlett School Bathroom Reconfiguration	\$ 40,000					\$ 40,000
2023-21	Donahoe Park Improvements	\$ 35,000					\$ 35,000

PUBLIC INVESTMENT CAPITAL PLANS

PROPOSED VEHICLES – FIVE YEAR OUTLOOK

PROPOSED VEHICLES – FIVE YEAR OUTLOOK

PUBLIC INVESTMENT CAPITAL PLANS

VEHICLE NUMBER	VEHICLE	MODEL YEAR	DEPARTMENT	2019	2020	2021	2022	2023
82	Ford F-350 Pickup/Sander	2001	DPW - STREETS	\$80,000				
P-35	Skid Loader 320 G	2018	DPW - PARKS	\$46,162				

PUBLIC INVESTMENT CAPITAL PLANS

VEHICLE NUMBER	VEHICLE	MODEL YEAR	DEPARTMENT	2019	2020	2021	2022	2023
E7	Fire Truck - Engine 7	2019	FIRE DEPARTMENT		\$550,000			
E-2	Int'l Aerial Lift	2002	DPW - ELECTRICIAN		\$165,000			
E-11	Ford F-150	2003	DPW - ELECTRICIAN		\$32,000			
205	Ford Explorer	1999	DPW - STREETS		\$32,000			
91	Ford E-150 Van	1999	DPW - STREETS		\$35,000			
206	Ford Ranger 4x4 Pickup	1997	DPW - STREETS		\$35,000			
46	Chevy GMT400 Pickup	1998	DPW - STREETS		\$40,000			
84	Ford F-250 Pickup	2000	DPW - STREETS		\$35,000			
86	Ford F-150	2003	DPW - STREETS		\$40,000			
129	Bandit Chipper	1999	DPW - STREETS		\$50,000			
72	Caterpillar	2002	DPW - STREETS		\$80,000			
66	Ford F-550 Sander/Dump	1999	DPW - STREETS		\$90,000			
55	Int'l Trash Truck	1987	DPW - STREETS		\$150,000			
30	Sander/Dump	2006	DPW - STREETS		\$150,000			
127	Int'l Skyworker	1987	DPW - STREETS		\$180,000			
49	Volvo Loader	2005	DPW - STREETS		\$220,000			
77	Int'l 4700 Sander/Dump	2006	DPW - STREETS		\$230,000			
78	Int'l 4701 Sander/Dump	2006	DPW - STREETS		\$230,000			
79	Int'l 4702 Sander/Dump	2006	DPW - STREETS		\$230,000			
37	Elgin Sweeper	2002	DPW - STREETS		\$235,000			
LB-8	Ford F-250	2000	DPW - L&B		\$35,000			
LB-5	Ford F-250	2003	DPW - L&B		\$35,000			
LB-102	Ford F-350	2000	DPW - L&B		\$45,000			
LB-119	Ford F-350	2000	DPW - L&B		\$45,000			
LB-25	Ford F-350	2001	DPW - L&B		\$75,000			
TR3	Flatbed Trailer	1993	DPW - GENERAL		\$75,000			
N/A	Generator	N/A	DPW - GENERAL		\$85,000			
TR4	Big Tex Trailer	2001	DPW - GENERAL		\$20,000			
P-23	Ford F-650 Medium Dump Truck	2018	DPW - PARKS		\$121,963			
P-24	Ford F-650 Medium Dump Truck	2018	DPW - PARKS		\$121,963			

PUBLIC INVESTMENT CAPITAL PLANS

VEHICLE NUMBER	VEHICLE	MODEL YEAR	DEPARTMENT	2019	2020	2021	2022	2023
E1	Fire Truck - Engine 1	2020	FIRE DEPARTMENT			\$550,000		
N/A	Hustler Super 2 HD Mower 36 Vang	2018	DPW-PARKS			\$11,330		
N/A	Tennant Vacuum ATL	2018	DPW- PARKS			\$47,852		
N/A	Kaswasaki Mule SX 4x 4 610 Hard Cab	2018	DPW - PARKS			\$15,598		
ASL-300	Terex Track Loader	2018	DPW-PARKS			\$38,540		
LB-17	Ford E-250	2011	DPW - L&B			\$38,000		
LB-18	Ford E-250	2011	DPW - L&B			\$38,000		
LB-28	Ford E-250	2011	DPW - L&B			\$38,000		
LB- 2	Ford F-150	2013	DPW - L&B			\$40,000		
LB-19	Ford E-250	2013	DPW - L&B			\$40,000		
LB-85	Ford F-350	2011	DPW - L&B			\$45,000		
42	Ford Transit	2012	DPW - STREETS			\$35,000		
N/A	Smith Air Compressor	1986	DPW - STREETS			\$85,000		
74	Int'l 4900 Hotbox/Sander	2002	DPW - STREETS			\$180,000		
75	Int'l 4900 Sander/Dump	2002	DPW - STREETS			\$180,000		
56	Int'l Sander/Dump	2012	DPW - STREETS			\$230,000		
57	Int'l Sander/Dump	2012	DPW - STREETS			\$230,000		
58	Int'l Sander/Dump	2012	DPW - STREETS			\$230,000		
60	Int'l Sander/Dump	2012	DPW - STREETS			\$230,000		
61	Int'l 4x4 Sander/Dump	2012	DPW - STREETS			\$230,000		
62	Sander	2012	DPW - STREETS			\$230,000		
33	Elgin Sweeper	2013	DPW - STREETS			\$240,000		
59	Int'l Sander/Dump	2012	DPW - STREETS			\$245,000		
N/A	Power Wash Trailer	N/A	DPW - GENERAL			\$45,000		
TR2	Trailer	2011	DPW - GENERAL			\$90,000		

PUBLIC INVESTMENT CAPITAL PLANS

VEHICLE NUMBER	VEHICLE	MODEL YEAR	DEPARTMENT	2019	2020	2021	2022	2023
L3	Fire Truck - Ladder 3	2021	FIRE DEPARTMENT				\$850,000	
LB-88	Logan Lift	1996	DPW - L&B				\$180,000	
E-7	Aerial Lift	2011	DPW - ELECTRICIAN				\$170,000	
43	Ford Transit	2013	DPW - STREETS				\$35,000	
44	Ford Transit	2012	DPW - STREETS				\$35,000	
1	Ford Escape	2011	DPW - STREETS				\$40,000	
89	Ford F-150	2013	DPW - STREETS				\$40,000	
87	Ford F-350	2011	DPW - STREETS				\$45,000	
88	Ford F-350	2012	DPW - STREETS				\$50,000	
64	Leroi Compressor	N/A	DPW - STREETS				\$70,000	
128	Int'l Skyworker	2012	DPW - STREETS				\$175,000	
50	Volvo Loader	2011	DPW - STREETS				\$230,000	
65	Int'l Sander/Dump	2012	DPW - STREETS				\$250,000	
TR5	Trailer	2012	DPW - GENERAL				\$20,000	
TR1	Trailer	N/A	DPW - GENERAL				\$80,000	

PUBLIC INVESTMENT CAPITAL PLANS

VEHICLE NUMBER	VEHICLE	MODEL YEAR	DEPARTMENT	2019	2020	2021	2022	2023
E4	Fire Truck - Engine 4	2022	FIRE DEPARTMENT					\$550,000
E3	Fire Truck - Engine 3	2022	FIRE DEPARTMENT					\$550,000
LB-3	Ford Transit	2016	DPW - L&B					\$40,000
LB-4	Ford Transit	2016	DPW - L&B					\$40,000
LB-7	Ford F-250	2016	DPW - L&B					\$48,000
131	Bandit Chipper	2015	DPW - STREETS					\$90,000
47	John Deere Excavator	2014	DPW - STREETS					\$130,000
76	Int'l 4700 Trash Truck	2001	DPW - STREETS					\$185,000
51	Deere 624K Loader	2016	DPW - STREETS					\$225,000
32	Elgin Sweeper	2014	DPW - STREETS					\$245,000
63	Freightliner Sander	2017	DPW - STREETS					\$250,000
67	Freightliner Sander/Dump	2014	DPW - STREETS					\$250,000
68	Freightliner Sander/Dump	2014	DPW - STREETS					\$250,000
69	Freightliner Sander/Dump	2014	DPW - STREETS					\$250,000
E-4	Ford Escape	2016	DPW - ELECTRICIAN					\$40,000
E-9	Ford Transit	2016	DPW - ELECTRICIAN					\$40,000
E-8	Ford F-450 Crane Truck	2014	DPW - ELECTRICIAN					\$90,000
E-1	Int'l Aerial Lift	2013	DPW - ELECTRICIAN					\$185,000
N/A	Utility Trailer	2001	DPW - GENERAL					\$30,000
N/A	Mixer	N/A	DPW - GENERAL					\$30,000
N/A	Mixer	N/A	DPW - GENERAL					\$30,000
N/A	Light Tower	N/A	DPW - GENERAL					\$30,000
TR6	Trailer	2014	DPW - GENERAL					\$50,000
N/A	Ditch Witch	1999	DPW - GENERAL					\$75,000
N/A	Phunkett Paver	N/A	DPW - GENERAL					\$80,000
N/A	Snogo Snowblower	2011	DPW - GENERAL					\$105,000

FINANCIAL ANALYSIS

One financing strategy for capital plans is to use the budgetary capacity created by paying off existing debt to issue more bonds to finance capital projects. In theory this accomplishes two objectives. First by financing capital with debt, it matches payments for the asset with the useful life of the asset itself. Secondly, by replacing a declining expense with a new expense, the operating budget is not burdened further. The number we will arrive at as the “target debt service” would represent a net zero impact on the General Fund.

To begin these calculations, we start with the forecast of current debt service and deduct ongoing reimbursements from the Massachusetts School Building Authority (“MSBA”). From this, we arrive at our target debt service number for the next five years. Next, we include potential savings forecasted from issuing refunding bonds. This occurs when new debt is issued to replace or redeem old debt before the maturity or call date of the old debt. Under these circumstances, the proceeds of the new debt must be placed in escrow and used to pay interest on old, outstanding debt as it becomes due, and to pay the principal on the old debt either as it matures or at an earlier call date. While Lowell has already taken advantage of many refunding opportunities, there are additional prospects being pursued currently by the City Administration which will reduce future debt service costs. These savings are incorporated in the model presented below.

The analysis includes previously authorized capital expenditures which have been spent, but not permanently financed. These future costs are layered into the analysis to provide a more accurate forecast, including all financial considerations. The results of the analysis show

A less attractive, but more generous strategy is to perform the same calculations, but to assume that the City’s budget has the capacity to increase at 2 ½% per year. This is consistent with Proposition 2 ½ and with the long-term historical revenue growth. Along the bottom line of the chart, the revised target includes an increase of 2.5% of the prior year’s forecasted debt service for comparison. The capital planning process has run concurrently with preparations for the upcoming year’s operating budget. The symbiotic relationship between capital planning and preparation of the operating budget has long-since been a goal of the city, which has finally come to fruition.

Preparation of a five-year capital improvement plan (CIP) is a best practice in municipal finance. Department Heads were asked to submit their short and medium term priorities to the Finance Office this winter for consideration and inclusion in a comprehensive plan. Buildings, infrastructure, technology, and major equipment are the physical foundation for providing services to constituents. The procurement, construction, and maintenance of capital assets are a critical activity of state and local governments, school districts, and other government agencies, and therefore require careful planning.

PUBLIC INVESTMENT CAPITAL PLANS

Capital planning is critical to maintaining essential public services. It is also an important component of a community's economic development program and strategic plan. Capital facilities and infrastructure are important legacies that serve current and future generations. It is extremely difficult for governments to address the current and long-term needs of their constituents without a sound multi-year capital plan that clearly identifies capital and major equipment needs, maintenance requirements, funding options, and operating budget impacts.

The debt service payments related to financing all of these projects have been incorporated into our General Fund forecasts. Also included in the plan is one major parking-related project in the Hamilton Canal District, which will be funded without tax support through the Parking Enterprise.

Actual and Projected Budgeted Revenues

<u>Fiscal Year</u>	<u>Total Amount to Be Raised</u>	<u>Annual Growth Rate</u>	<u>Compounded Annual Growth Factor (CAGF)</u>
2008	\$ 308,711,540	n/a	
2009	\$ 318,636,488	3.21%	1.91%
2010	\$ 308,847,270	-3.07%	
2011	\$ 311,646,472	0.91%	
2012	\$ 321,111,145	3.04%	
2013	\$ 328,095,926	2.18%	
2014	\$ 342,975,498	4.54%	Projections
2015	\$ 364,130,698	6.17%	
2016	\$ 358,051,834	-1.67%	
2017	\$ 365,886,534	2.19%	
2018	\$ 376,248,783	2.83%	
2019	\$ 383,419,670	1.91%	
2020	\$ 390,727,226	1.91%	
2021	\$ 398,174,055	1.91%	
2022	\$ 405,762,813	1.91%	
2023	\$ 413,496,205	1.91%	

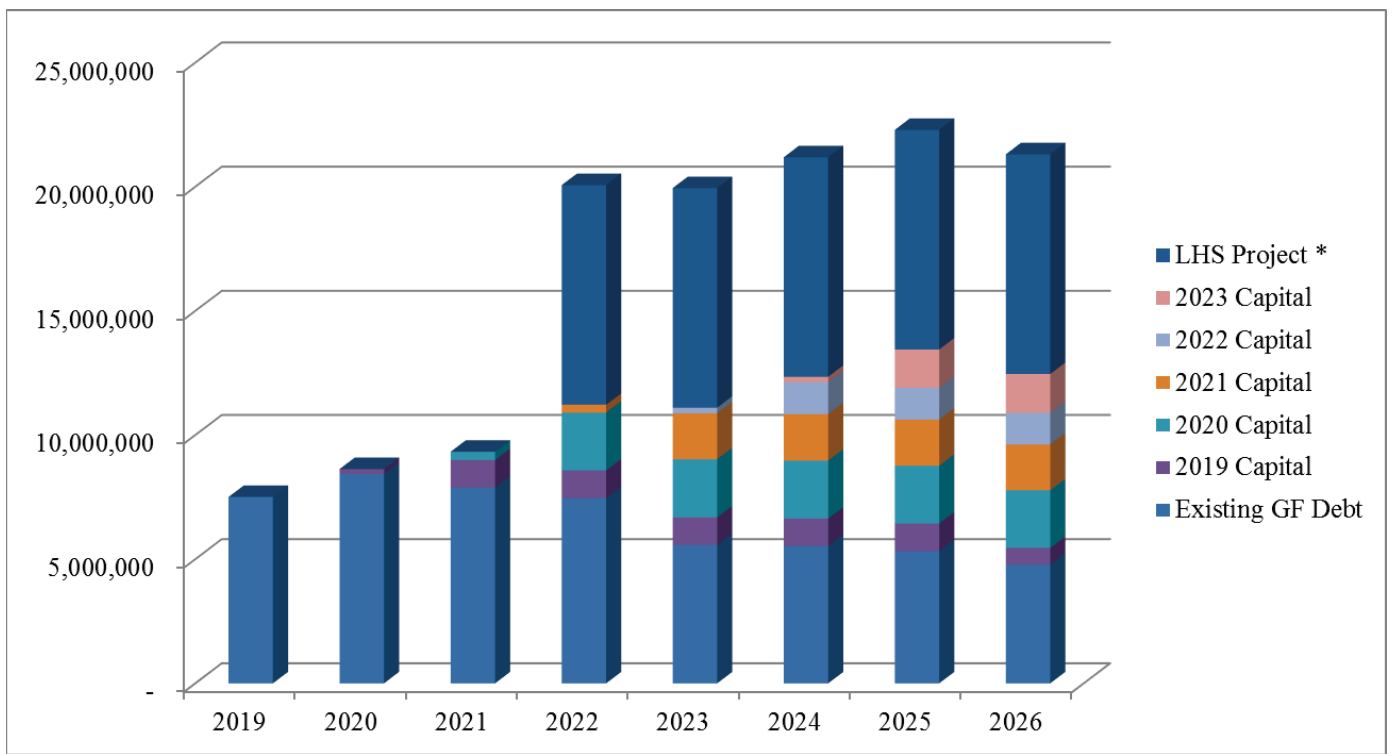
Existing Debt Obligations as a Percentage of Budgeted Revenues

<u>Fiscal Year</u>	<u>Existing Net Debt Service Obligations (All Funds)</u>	<u>Projected Budgeted Revenue</u>	<u>Debt Service as a % of Projected Budgeted Revenue</u>
2017	\$ 20,102,956	\$ 365,886,534	5.49%
2018	\$ 19,999,846	\$ 376,248,783	5.32%
2019	\$ 24,092,947	\$ 383,419,670	6.28%
2020	\$ 24,877,992	\$ 390,727,226	6.37%
2021	\$ 24,129,831	\$ 398,174,055	6.06%
2022	\$ 22,888,153	\$ 405,762,813	5.64%
2023	\$ 20,603,766	\$ 413,496,205	4.98%

DEBT LIMIT CALCULATION (Preliminary - Not Certified)

Equalized Valuation (Final FY16 a/o 4/29/17)	\$	7,154,033,100
Debt Limit (5% of Equalized Valuation)	\$	357,701,655
Total Outstanding Debt as of June 30, 2017	\$	237,392,385
Total Authorized/ Unissued Debt as of June 30, 2016 (Approximate)	\$	58,991,275
Total Outstanding Debt Plus Total Authorized/ Unissued Debt	\$	296,383,660
Amount of Outstanding Debt Outside the Debt Limit	\$	60,354,946
Approximate Amount of Authorized/ Unissued Debt Outside the Debt Limit	\$	34,864,527
Outstanding Debt plus Authorized/ Unissued Outside the Debt Limit	\$	95,219,473
Total Outstanding Debt Plus Total Authorized/ Unissued Debt	\$	296,383,660
Less: Outstanding Debt plus Authorized/ Unissued Outside the Debt Limit	\$	95,219,473
Debt Subject to the Debt Limit	\$	201,164,187
Debt Limit (5% of Equalized Valuation)	\$	357,701,655
Remaining Borrowing Capacity Under Debt Limit	\$	156,537,468

PUBLIC INVESTMENT CAPITAL PLANS



PUBLIC INVESTMENT CAPITAL PLANS

City of Lowell, Massachusetts

Projected Interest Rate on Bonds Dated September 1, 2019: 4.00%
 Projected Interest Rate on Bonds Dated September 1, 2020: 4.25%
 Projected Interest Rate on Bonds Dated September 1, 2021-2023: 4.50%

5-Year General Fund Capital Plan

Fiscal Year	A Existing General Fund Debt Service	B Less: Existing QECB & RZEDB Subsidies	C Less: Existing MSBA Subsidies	D Equals: Net Existing General Fund Debt Service	E Plus: Bonds dated 9/1/19 (see pages 3-5)	F Plus: Bonds dated 9/1/20 (see pages 6-9)	G Plus: Bonds dated 9/1/21 (see pages 10-13)	H Plus: Bonds dated 9/1/22 (see pages 14-17)	H Plus: Bonds dated 9/1/23 (see pages 18-20)	LHS Project	I Equals: Existing and Projected General Fund Debt Service
2019	8,907,844	(204,911)	(1,192,791)	7,510,142	-	-	-	-	-	-	7,510,142
2020	9,815,824	(191,559)	(1,192,791)	8,431,474	200,591	-	-	-	-	-	8,632,065
2021	9,258,769	(177,469)	(1,192,791)	7,888,509	1,111,244	328,906	-	-	-	-	9,328,659
2022	8,812,366	(162,382)	(1,192,790)	7,457,194	1,121,900	2,329,445	314,623	-	-	8,843,000	20,066,163
2023	6,912,931	(146,905)	(1,192,787)	5,573,239	1,115,800	2,337,188	1,854,293	221,342	-	8,845,750	19,947,612
2024	5,662,880	(131,039)	-	5,531,842	1,108,700	2,334,519	1,868,038	1,285,724	217,257	8,843,250	21,189,329
2025	5,443,241	(114,782)	-	5,328,460	1,115,300	2,323,769	1,857,288	1,278,738	1,544,827	8,845,500	22,293,880
2026	4,883,029	(98,135)	-	4,784,894	674,400	2,319,831	1,844,288	1,272,675	1,566,175	8,847,000	21,309,263
2027	4,667,593	(79,903)	-	4,587,690	671,500	687,769	1,848,588	1,274,813	1,555,713	8,842,500	19,468,572
2028	4,316,174	(61,243)	-	4,254,931	672,900	683,963	779,375	1,274,925	1,557,888	8,847,000	18,070,981
2029	4,048,315	(42,096)	-	4,006,218	668,600	679,519	787,550	588,763	1,552,475	8,844,750	17,127,875
2030	3,748,339	(22,463)	-	3,725,876	673,500	689,119	774,825	587,000	366,700	8,845,750	15,662,770
2031	2,530,605	(2,259)	-	2,528,345	652,900	677,869	776,313	584,563	371,463	8,844,500	14,435,952
2032	2,027,784	-	-	2,027,784	656,800	646,619	762,013	571,675	356,000	8,845,750	13,866,640
2033	1,381,100	-	-	1,381,100	649,900	635,369	722,825	568,338	360,313	8,844,000	13,161,844
2034	1,106,531	-	-	1,106,531	652,200	618,800	713,638	549,663	349,288	8,844,000	12,834,119
2035	969,375	-	-	969,375	653,500	606,913	703,775	530,988	343,150	8,845,250	12,652,950
2036	831,425	-	-	831,425	203,000	619,069	698,125	526,975	341,675	8,842,250	12,062,519
2037	234,850	-	-	-	206,000	262,706	711,125	532,063	329,975	8,844,750	10,886,619
2038	227,425	-	-	-	198,800	278,038	389,975	531,138	342,713	8,842,000	10,582,663
2039	-	-	-	-	201,400	277,625	390,238	260,500	344,550	8,843,750	10,318,063
2040	-	-	-	-	193,800	276,788	384,938	221,275	194,200	8,844,250	10,115,250
2041	-	-	-	-	-	270,631	379,188	212,725	187,000	8,843,000	9,892,544
2042	-	-	-	-	-	-	368,100	213,950	179,800	8,844,500	9,606,350
2043	-	-	-	-	-	-	-	214,725	192,150	8,843,000	9,249,875
2044	-	-	-	-	-	-	-	-	184,050	8,843,000	9,027,050
Total	85,786,401	(1,435,146)	(5,963,950)	77,925,030	13,402,735	19,884,451	18,929,116	13,302,554	12,437,359	203,418,500	359,299,746

Assumptions:

- † Existing General Fund Debt Outstanding as of June 30, 2018.
- † Proposed issues structured on a level debt basis amortized over 20 years.

GENERAL FUND FORECAST/BALANCE

Line Number	Category	Assumptions	2019	2020	2021	2022	2023	2024
1	Prior Year Levy	<i>From last yr</i>	128,496,146	133,316,069	139,252,296	145,336,928	151,573,676	157,966,343
2	Prop 2 1/2 Increase	<i>2.5%</i>	3,212,404	3,332,902	3,481,307	3,633,423	3,789,342	3,949,159
3	New Growth	<i>Three year avg.</i>	2,250,000	2,603,325	2,603,325	2,603,325	2,603,325	2,603,325
4	Tax Increase/(Decrease)	<i>2.0% in FY19</i>	(642,481)	-	-	-	-	-
5	Tax Levy	<i>Calculated</i>	133,316,069	139,252,296	145,336,928	151,573,676	157,966,343	164,518,827
6	Local Aid	<i>5 Year Average</i>	180,081,250	183,771,540	187,739,881	191,513,942	195,937,675	200,555,670
7	Local Receipts	<i>Flat Estimate</i>	23,789,688	24,610,618	24,939,195	25,276,906	25,624,064	25,980,994
8	Available Funds	<i>Reduce 25%/ yr</i>	5,798,929	4,349,197	3,261,898	2,446,423	1,834,817	1,376,113
9	MSBA Reimbursement	<i>From MSBA</i>	1,192,794	1,192,791	1,192,791	1,192,791	1,192,791	-
10	Subtotal Gross Revenues	<i>Sum (Line 5-9)</i>	344,178,730	353,176,441	362,470,692	372,003,738	382,555,690	392,431,603
11	Overlay	<i>2.50%</i>	1,100,000	1,127,500	1,155,688	1,184,580	1,214,194	1,244,549
12	State and County Charges	<i>5 Year Average</i>	26,474,214	28,349,599	30,218,301	32,219,139	34,361,828	36,656,856
13	Snow & Ice Deficit (a)		-	-	-	-	-	-
14	Subtotal To Be Raised	<i>Sum (Line 11 - 13)</i>	27,574,214	29,477,099	31,373,989	33,403,719	35,576,023	37,901,405
15	Indirect Reimb (Enterprises)	<i>calculated</i>	9,012,522	9,017,215	9,366,536	9,737,324	10,095,016	10,480,694
16	Net Revenue	<i>Line 10 + 14 + 15</i>	325,617,038	332,716,557	340,463,239	348,337,342	357,074,683	365,010,893

THE CITY'S FINANCIAL SUMMARIES

Line Number	Category	Assumptions	2019	2020	2021	2022	2023	2024
17	School Budget (Chap 70)	5 Year Average	149,786,272	153,738,293	157,794,586	161,957,902	166,231,065	170,616,972
18	School Budget (local)	2.50%	15,736,053	16,129,454	16,532,691	16,946,008	17,369,658	17,803,900
19	Subtotal School Spending	<i>Line 17 + 18</i>	165,522,325	169,867,748	174,327,277	178,903,910	183,600,723	188,859,463
20	Salaries & Wages	2.50%	67,077,312	68,030,592	71,169,760	74,099,572	77,150,385	80,327,197
21	Health/Dental Insurance	5.00%	23,678,000	27,348,891	28,716,335	30,152,152	31,659,760	33,242,747
22	Medicare Tax	2.50%	2,792,260	2,862,067	2,933,618	3,006,959	3,082,133	3,159,186
23	Pension Assessments	2015 Actuarial	25,980,831	28,029,334	29,102,356	30,079,349	31,089,046	32,132,191
24	Unemployment	2.00%	625,000	637,500	650,250	663,255	676,520	690,051
25	Existing Debt Service*	DS attached	8,968,387	9,815,824	9,258,769	8,812,366	6,912,931	5,662,880
26	Projected Capital Plan DS	DS attached	-	200,591	1,440,150	3,765,968	5,528,623	6,814,237
27	Lowell HS Renovation Debt	Option 3A	-	-	-	8,843,000	8,845,750	8,843,250
28	Trash Removal	5.00%	5,512,500	6,426,686	6,715,112	6,983,617	7,264,573	7,627,802
29	Utility Accounts	3.00%	1,350,000	1,390,500	1,432,215	1,475,181	1,519,437	1,565,020
30	Street Lights	0.00%	449,000	449,000	449,000	449,000	449,000	449,000
31	Greater Lowell Technical HS	2.50%	7,984,722	8,184,340	8,388,949	8,598,672	8,813,639	9,033,980
32	GLTHS Capital Assessment	DS attached	1,007,979	981,712	965,134	948,555	928,535	908,514
33	Snow & Ice	0.00%	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000	1,350,000
34	Claims	0.00%	775,000	775,000	775,000	775,000	775,000	775,000
35	Essex Agricultural	0.00%	92,000	92,000	92,000	92,000	92,000	
36	N Middlesex Area Comm	2.50%	35,875	36,772	37,691	38,633	39,599	40,589
37	All Other Expenses	2.00%	12,415,847	12,664,164	12,917,447	13,175,796	13,439,312	13,708,098
38	Subtotal "City" Spending	<i>Sum (Line 20 - 37)</i>	160,094,713	169,274,973	176,393,785	193,309,076	199,616,242	206,329,742
39	Total Appropriations	<i>Line 19 + 38</i>	325,617,038	339,142,720	350,721,063	372,212,987	383,216,965	395,189,205
40	Surplus/(Deficit)	<i>Line 16 - 39</i>	(0)	(6,426,163)	(10,257,823)	(23,875,644)	(26,142,282)	(30,178,312)

TAX LEVY FORECAST/BALANCE

Line Number	Category	Assumptions	2019	2020	2021	2022	2023	2024
1a	Prior Year Levy Limit	<i>From DOR</i>	146,828,850	152,749,571	159,171,635	165,754,251	172,501,433	179,417,293
	Plus amended prior yr growth		-	-	-	-	-	-
2a	<i>Plus Prop 2 1/2 Increase</i>	<i>Line 1 * 2.5%</i>	3,670,721	3,818,739	3,979,291	4,143,856	4,312,536	4,485,432
3a	<i>Plus New Growth</i>	<i>3 Year Average</i>	2,250,000	2,603,325	2,603,325	2,603,325	2,603,325	1,600,000
4a	New Levy Limit	<i>Sum Line 1a-3a</i>	152,749,571	159,171,635	165,754,251	172,501,433	179,417,293	185,502,726
5a	New Levy Limit	<i>Line 4a</i>	152,749,571	159,171,635	165,754,251	172,501,433	179,417,293	185,502,726
6a	<i>Less Tax Levy</i>	<i>Line 5 (above)</i>	(133,316,069)	(139,252,296)	(145,336,928)	(151,573,676)	(157,966,343)	(164,518,827)
7a	Excess Levy Capacity	<i>Line 5a + 6a</i>	19,433,502	19,919,340	20,417,323	20,927,756	21,450,950	20,983,899

Deficit (prior pg.) as % of the Levy	<i>Line 40 / Line 5a</i>	0%	5%	7%	16%	17%	18%
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*Does not include subsidies