



June 28, 2011

Charles J. Aspinwall
Town Administrator
800 Main Street
Millis, MA 02054

Re: Water System Capital Improvement Plan

Dear Mr. Aspinwall:

Woodard & Curran is pleased to present a Capital Improvement Plan (CIP) for the Town of Millis' water system. This CIP was developed under a grant obtained by the Town from the Massachusetts Department of Environmental Protection (MassDEP). The purpose of the CIP is to provide the Town with a document that identifies capital projects to assist with both short- and long-term planning.

The primary goal of the MassDEP CIP grant program is to achieve the following objectives:

- Improve upon and ensure the efficient delivery of drinking water that continues to protect the public health
- Establish an inventory of water mains
- Develop an accurate assessment of the full scope of funding that would be necessary to implement capital improvement needs to the water works system to ensure that public health requirements will be met over a 20-year time horizon
- Prioritize in the CIP improvements based on public health needs
- Introduce a concept of establishing an annual investment amount into the budget process for performing capital improvements.

Inventory of Water Mains

Attached as Table 1 is an inventory of all of the water mains in the Millis distribution system. This table was developed from information available from the hydraulic model of the distribution system that was prepared as part of the 2010 Water System Master Plan. It was supplemented with current information from the Town.

In the review of the inventory of the water mains, and the determination of the need for replacement or cleaning and cement lining, the following information was evaluated:

- Water main age and type (asbestos cement and unlined cast iron pipe)
- Pipe breakage records
- Corrosion problems and tuberculated pipe



- Taste, color and odor issues
- Water quality and long residence times
- Low pressures and flows

Recommended Capital Improvements

Based on the guidance documents provided by the MassDEP, the capital improvements are divided into several categories, and are based on existing engineering and planning information, including the June 2010 Water System Master Plan. Tables 2 through 5 summarize project information for each category, and include a description of the need for the project, an estimate of probable cost and approximate year of implementation for each of the recommended improvements.

- *Treatment Facilities and Well Pump Stations Capital Projects (Table 2)*

This table summarizes anticipated improvements to the wells, pumping stations and treatment plants over the next 20 years. It includes improvements to the water supply facilities to meet anticipated water quality regulations and to improve system reliability. Costs were also estimated at each well and treatment site to rehabilitate or replace the wells and well pumps, and to rehabilitate the treatment systems, building structures and utility systems (chemical feed, roofing, heating, ventilation, plumbing, electrical, etc.).

- *Storage Tanks Capital Projects (Table 3)*

The repainting and rehabilitation of the two storage tanks were based on a 15 year useful life cycle for the tank coating systems.

- *Booster Pumping Systems Capital Projects (Table 4)*

This table identifies the need for a new booster pumping station at Walnut Hill and an expansion of the high service area to increase system pressures and improve reliability.

- *Water Main Capital Projects (Table 5)*

This table was developed from the inventory of water mains in the distribution system, and includes mains that are recommended to be replaced or rehabilitated to improve water quality and water flows in the distribution system. It includes the unlined and undersized mains in the system, as well as those mains that need to be replaced to improve flows for hydrants.

The phasing of the water distribution system improvements should be coordinated with other proposed municipal work in Town streets, including sewer and drainage improvements and repaving of streets. An integrated infrastructure asset management program utilizing the data management and graphical capabilities of the water distribution GIS mapping system, will ensure that the work will be done in logical sequence, and that streets will not be dug up for utility improvements shortly after repaving. It will also allow Town departments to make best use of municipal budgets by combining work being done on streets.



- *Other - Water Meters (Table 6)*

This table lists upgrades that may be needed for the Town's water metering system. The existing water meters were installed between 2003 and 2005. The MassDEP recommends that water meters be replaced every 10 to 15 years to maintain accuracy. This would mean that the meters should be replaced in about the year 2020. However, the DPW plans to test the meters at that time to check the accuracy of the meters before replacing any of them.

Budgeting for Capital Improvements

A completed Capital Improvement Plan that identifies needed projects over the next 20 year period will allow a water system to allocate sufficient funds to ensure the proper delivery and public health of drinking water is maintained. The budgeting for the capital improvements can be accomplished in two primary ways:

- *Line item budgeting*

This would include the funding for a project in the budget as a line item for the following fiscal year. The project would be paid in full in that fiscal year.

- *Bonding (debt service)*

With this payment method, the funds for the project would be borrowed and paid back over time, usually 10- to 20-year periods. The Town would budget for the annual debt service payments.

- *Combination of line item budgeting and bonding*

The amount that a community includes in its annual budgeting process for capital projects, either through line item budgeting or bonding (debt service), will determine the impact on water rates. This amount should be evaluated on an annual basis and adjusted appropriately, as revenues and costs for a water system may fluctuate.

The MassDEP would like communities to consider the concept of developing an annual investment for capital improvements. This would allow communities to initiate spending on capital projects in a consistent manner that would prevent water rates from significantly fluctuating on a year-to-year basis.

The existing debt service in the Millis water enterprise account is shown on Table 7 and Figure 1. In 2008, the debt service peaked at a little over \$400,000. By 2025, the existing debt service will be completely paid off.

Table 8 presents the potential future debt service assuming that the funds for the recommended capital improvement projects listed on Tables 2 through 6 were borrowed over ten year periods. This is shown graphically on Figure 2. Recommended water main improvement projects were not included on this table or figure. To simplify the presentation, allowances for interest on borrowing or for inflation were not included. A hypothetical spending or bonding cap of \$400,000 is shown as a red dashed line on Figure 2. This figure was selected for a spending cap because the Town has recently experienced this level of debt service. With the capital improvements identified and prioritized by year, a \$400,000 spending cap would be exceeded starting in 2020, the year that payment for the meter replacement project would start.



If the Town decides that it does not want to exceed a predetermined spending cap, the implementation dates for projects may be delayed to stay within the spending cap. For instance, if the water meter replacement project could be pushed back three years, as presented on Table 9, the annual debt service would remain below the \$400,000 spending cap. This is shown graphically on Figure 3. A level debt service would tend to minimize impacts and fluctuations on water rates.

Figure 3 also shows with this example, that if the projects are implemented as recommended, and the spending cap of \$400,000 is adhered to, that in certain years the annual debt service would be less than the \$400,000 spending cap. This would allow the Town to fund other capital projects, such as water main improvements by bonding or line item budgeting. Table 10 presents the funds that could be available on an annual basis for other projects. This is shown graphically on Figure 4.

As part of the grant program, the MassDEP would like the Town to consider:

- Adopting line item budgeting and/or bonding for capital projects, including water main replacement projects
- Enacting a bond cap for the annual payment of debt service from water revenues to complete water works capital improvement projects
- Developing a water rate structure to provide revenue to fund line item capital projects or to fund debt service
- Accepting the components of the Capital Improvement Plan as a dynamic spending plan

Selectmen's Meeting

On June 6, 2011, a presentation was made at a Board of Selectmen's Meeting on the MassDEP's Water System Capital Improvement Plan for the Town of Millis. Attached is a copy of the presentation. Also attached is a copy of the minutes of the June 20, 2011 Selectmen's Meeting where the Selectmen passed a motion to accept the Capital Improvement Plan as a dynamic spending plan, and to use the plan for budgeting future capital projects.

If you have any questions or comments, please contact me.

Sincerely,

WOODARD & CURRAN INC.

James F. Finegan, P.E.
Associate

JSM/jsm
Project Number 224303

Enclosures

cc: J. Rivard, Woodard & Curran

TABLES

Table 1
Town of Millis - Water System Capital Improvement Plan
Water Main Inventory

PIPE ID	INST YEAR	MATERIAL	LENGTH	DIAM	STREET	COMMENTS
P0009	1960	Suspected Unlined	943	6	CEDAR STREET	
P0010	1950	Suspected Unlined	223	6	UNKNOWN	
P0011	1980	DI	449	8	DYER STREET	
P0012	1970	Iron	366	6	PLAIN STREET	
P0013	1970	Iron	314	6	WINTER STREET	
P0014	1970	Iron	404	6	PARNELL STREET	
P0015	1960	Suspected Unlined	417	6	MAPLE AVENUE	
P0016	1990	DI	582	6	WOODLAWN DRIVE	
P0017	1960	Suspected Unlined	377	6	COLE STREET	
P0018	1970	Iron	752	6	ISLAND ROAD	
P0019	2000	DI	287	6	PLAIN STREET	
P0020	1970	Iron	432	6	COTTAGE STREET	
P0021	0		269	6	RIDGE STREET	
P0022	1980	DI	364	6	CROSS COUNTRY	
P0023	0		331	6	DANIELS STREET	
P0024	1950	Suspected Unlined	525	6	MAIN STREET	
P0025	1970	Iron	231	6	SCHOOL ROAD	
P0026	1970	Iron	450	6	ROSS STREET	
P0180	1970	Iron	330	6	IRVING STREET	
P0181	1960	Suspected Unlined	527	6	LAVENDAR STREET	
P0182	1970	Iron	600	6	MUNROE STREET	
P0183	1970	Iron	373	6	MCCABE AVENUE	
P0184	1970	Iron	120	6	SCHOOL ROAD	
P0185	1960	Suspected Unlined	867	6	LARCH ROAD	
P0209	1970	Iron	274	6	ADAMS STREET	
P0215	1960	Suspected Unlined	304	6	VANKLEECK ROAD	
P0235	1970	Iron	145	6	FOREST ROAD	
P0236	1990	DI	557	6	SPRING STREET	
P0237	1990	DI	1568	6	SPRING STREET	
P0238	1970	Iron	1303	6	FOREST ROAD	
P0239	1970	Iron	40	6	FOREST ROAD	
P0240	1970	Iron	521	6	FOREST ROAD	
P0241	1970	Iron	217	6	FOREST ROAD	
P0242	1970	Iron	689	6	FOREST ROAD	
P0243	1970	Suspected Unlined	1009	6	CURVE STREET	
P0246	1970	Unlined	1297	6	RIDGE STREET	
P0247	1970	Unlined	792	6	RIDGE STREET	
P0248	1970	Iron	1147	6	DEAN STREET	
P0250	1970	Unlined	379	6	CAUSEWAY STREET	
P0251	1950	Suspected Unlined	461	6	RIDGE STREET	
P0252	1950	Suspected Unlined	284	6	RIDGE STREET	
P0254	1990	DI	58	6	SPRING STREET	
P0255	1970	Iron	675	6	SPENCER STREET	
P0258	1960	Suspected Unlined	476	6	CONWAY ROAD	

PIPE ID	INST YEAR	MATERIAL	LENGTH	DIAM	STREET	COMMENTS
P0291	0		261	6	UNKNOWN	
P0293	0		254	6	UNKNOWN	
P0306	0		186	6	UNKNOWN	
P0322	0		676	6	CROSS COUNTRY	
P0332	0		348	6	MAIN STREET	
P0333	0		207	6	MAIN STREET	
P0340	1990	DI	450	6	PINE VIEW	
P0363	1970	Iron	1312	6	CROSS COUNTRY	
P0406	0		323	6	HOLBROOK WAY	
P0407	1950	Unlined	1522	6	ORCHARD STREET	
P0415	1970	Iron	558	6	SPENCER STREET	
P0419	1960	Suspected Unlined	1746	6	FARM STREET	
P0420	1970	Iron	165	6	VILLAGE STREET	
P0421	1950	Suspected Unlined	302	6	CROSS COUNTRY	
P0422	1950	Suspected Unlined	203	6	COTTAGE AVENUE	
P0430	1970	Iron	554	6	CAUSEWAY STREET	
P0456	1960	Suspected Unlined	433	6	VANKLEECK ROAD	
P0457	1970	Iron	702	8	LEXINGTON LANE	
P0458	1970	Iron	341	8	LEXINGTON LANE	
P0459	1970	Iron	310	8	CONCORD CIRCLE	
P0460	1970	Iron	464	8	SARATOGA TERRACE	
P0461	1970	Iron	550	12	CONNECTOR ROAD	
P0462	1970	Iron	229	8	RIDGE STREET	
P0463	1970	Suspected Unlined	540	8	EXCHANGE STREET	
P0464	0		520	8	MILLISTON ROAD	
P0465	0		319	8	HEMLOCK CIRCLE	
P0466	0		638	8	HEMLOCK CIRCLE	
P0467	2000	DI	742	8	CASTLE ROAD	
P0468	1970	Iron	577	8	MAIN STREET	
P0469	1970	Iron	77	12	FARM STREET	
P0470	1960	Suspected Unlined	607	4	CROSS COUNTRY	
P0471	1960	Suspected Unlined	386	4	OAKVIEW AVENUE	
P0472	1970	Iron	547	10	SCHOOL ROAD	
P0473	1960	Unlined	15	8	WALNUT STREET	
P0476	1970	Iron	924	10	CROSS COUNTRY	
P0477	1990	DI	6	12	WALNUT STREET	
P0478	1970	Iron	103	4	ORCHARD STREET	
P0479	1970	Iron	436	8	CROSS COUNTRY	
P0480	1970	Suspected Unlined	447	8	EXCHANGE STREET	
P0481	1970	Iron	688	10	IRVING STREET	
P0482	1970	Iron	222	8	MAIN STREET	
P0483	1970	DI	236	12	MAIN STREET	
P0484	1970	Iron	372	8	MAIN STREET	
P0485	1970	Iron	611	10	MAIN STREET	
P0486	1980	DI	474	10	SCHOOL ROAD	
P0487	1970	Iron	360	10	SCHOOL ROAD	
P0488	1970	Iron	1272	12	CROSS COUNTRY	
P0489	1970	Iron	354	12	FARM STREET	
P0490	1970	Iron	467	6	ALMA ROAD	
P0491	1970	Iron	509	12	FARM STREET	

PIPE ID	INST YEAR	MATERIAL	LENGTH	DIAM	STREET	COMMENTS
P0492	1970	Iron	1052	12	FARM STREET	
P0493	1970	CL Iron	153	12	MAIN STREET	
P0494	1970	Suspected Unlined	382	8	EXCHANGE STREET	
P0495	1970	Iron	275	8	UNION STREET	
P0496	1970	Iron	212	8	ADAMS STREET	
P0497	1970	Iron	179	8	CROSS COUNTRY	
P0498	2000	DI	924	12	VILLAGE STREET	
P0499	1980	DI	905	12	ORCHARD STREET	
P0500	0		20	8	ORCHARD STREET	
P0501	1970	Iron	237	12	VILLAGE STREET	
P0502	1970	Iron	626	12	VILLAGE STREET	
P0503	1980	DI	239	8	CURVE STREET	
P0504	1980	DI	1168	12	RIDGE STREET	
P0505	1980	DI	448	12	RIDGE STREET	
P0506	1980	DI	124	12	UNION STREET	
P0507	1970	Suspected Unlined	214	8	POLLARD DRIVE	
P0508	1970	Iron	232	10	RIDGE STREET	
P0509	1990	DI	481	12	VILLAGE STREET	
P0510	1990	DI	265	12	VILLAGE STREET	
P0511	1970	Iron	290	12	BIRCH STREET	
P0512	1990	DI	398	12	VILLAGE STREET	
P0513	1970	DI	363	8	VILLAGE STREET	
P0514	1970	Iron	381	10	UNION STREET	
P0515	1970	Iron	449	8	UNION STREET	
P0516	1970	Iron	525	10	ACORN STREET	
P0517	1970	Iron	538	10	ACORN STREET	
P0518	1970	Iron	594	10	ACORN STREET	
P0519	1970	Iron	541	10	ACORN STREET	
P0520	2000	DI	789	12	VILLAGE STREET	
P0521	1970	Iron	336	12	PLAIN STREET	
P0522	1970	Iron	467	12	PLAIN STREET	
P0523	1990	DI	376	8	FOREST ROAD	
P0524	1990	DI	612	8	FOREST ROAD	
P0525	1970	Iron	713	12	PLAIN STREET	
P0526	1980	DI	921	12	ORCHARD STREET	
P0527	1980	DI	65	12	ORCHARD STREET	
P0528	1990	CL Iron	1052	8	EXCHANGE STREET	
P0529	1990	CL Iron	149	8	EXCHANGE STREET	
P0530	1990	CL Iron	465	8	EXCHANGE STREET	
P0531	1980	DI	574	8	CURVE STREET	
P0532	1970	Iron	301	10	CURVE STREET	
P0533	1970	Suspected Unlined	343	8	CLARK ROAD	
P0534	1970	Suspected Unlined	902	8	POLLARD DRIVE	
P0535	1960	Suspected Unlined	1323	8	EDEN STREET	
P0536	1970	Unlined	511	8	MAIN STREET	
P0537	1970	Unlined	666	8	DOVER ROAD	
P0538	1970	Iron	707	8	BIRCH STREET	
P0539	1960	Suspected Unlined	660	8	BALTIMORE STREET	
P0540	1960	Suspected Unlined	466	8	BALTIMORE STREET	
P0541	2000	DI	695	12	PLEASANT STREET	

PIPE ID	INST YEAR	MATERIAL	LENGTH	DIAM	STREET	COMMENTS
P0542	2000	DI	931	12	PLEASANT STREET	
P0543	2000	DI	292	12	MYRTLE STREET	
P0544	2000	DI	520	8	CLEWES ROAD	
P0545	2000	DI	511	8	SHERMAN ROAD	
P0546	1980	Iron	458	10	FARM STREET	
P0547	1960	Copper	107	3	WALNUT STREET	
P0548	1980	Iron	633	10	FARM STREET	
P0549	1970	Iron	417	8	BRANDYWINE LANE	
P0550	1970	Iron	382	8	INDEPENDENCE LANE	
P0551	2000	DI	403	12	VILLAGE STREET	
P0552	2000	DI	503	12	VILLAGE STREET	
P0553	2000	DI	401	12	VILLAGE STREET	
P0554	1970	DI	618	8	VILLAGE STREET	
P0555	1970	DI	804	8	VILLAGE STREET	
P0556	1970	Unlined	119	8	DOVER ROAD	
P0557	1970	Unlined	369	8	DOVER ROAD	
P0558	1970	Unlined	665	8	DOVER ROAD	
P0559	1960	Suspected Unlined	1343	8	MAIN STREET	
P0560	1960	Suspected Unlined	418	8	MAIN STREET	
P0561	1970	Suspected Unlined	301	8	RIDGE STREET	
P0562	1970	DI	161	8	OAKVIEW AVENUE	
P0563	1970	Iron	560	8	SPRING STREET	
P0564	1970	Iron	549	10	HIMELFARB STREET	
P0565	1980	Iron	431	8	BROOKVIEW ROAD	
P0566	1980	Iron	800	8	WALNUT HILL ROAD	
P0567	1970	Iron	340	12	VILLAGE STREET	
P0568	1970	Iron	453	8	UNION STREET	
P0569	1970	Iron	323	10	ACORN STREET	
P0570	1970	Iron	530	8	PLEASANT STREET	
P0571	1970	Iron	826	8	PLEASANT STREET	
P0572	1970	Iron	652	8	PLEASANT STREET	
P0573	1970	Iron	348	8	TICONDEROGA LANE	
P0574	1970	Iron	735	8	TICONDEROGA LANE	
P0575	1970	Iron	620	8	TICONDEROGA LANE	
P0576	1980	DI	450	12	ORCHARD STREET	
P0577	1980	DI	560	12	ORCHARD STREET	
P0578	1980	DI	290	12	ORCHARD STREET	
P0579	1980	Iron	606	8	CRESTVIEW DRIVE	
P0580	1980	Iron	445	8	CRESTVIEW DRIVE	
P0581	1980	Iron	437	8	J WILLIAM HEIGHTS	
P0582	1980	Iron	454	8	J WILLIAM HEIGHTS	
P0583	1980	Iron	266	8	IRON WOOD DRIVE	
P0584	1980	Iron	333	8	KING PHILIP DRIVE	
P0585	1980	DI	678	8	BOW STREET	
P0586	1990	DI	530	8	CONGRESS STREET	
P0587	1970	Suspected Unlined	124	8	CLARK ROAD	
P0588	1970	Suspected Unlined	269	8	CLARK ROAD	
P0589	1970	Iron	882	8	ISLAND ROAD	
P0590	1990	Iron	416	8	CROSS COUNTRY	
P0591	1980	DI	307	8	TIMBERLINE ROAD	

PIPE ID	INST YEAR	MATERIAL	LENGTH	DIAM	STREET	COMMENTS
P0592	1960	Suspected Unlined	571	8	ISLAND ROAD	
P0593	1970	DI	589	8	KEY STREET	
P0594	1970	DI	254	8	UNKNOWN	
P0595	1980	Iron	842	8	HOLBROOK WAY	
P0596	0		329	2	ISLAND ROAD	
P0597	1970	Iron	186	10	RIDGE STREET	
P0598	1970	Iron	576	8	RIDGE STREET	
P0599	1970	Iron	471	8	ROSENFELD ROAD	
P0600	1990	DI	451	8	PARTRIDGE LANE	
P0601	1980	DI	412	8	TIMBERLINE ROAD	
P0602	1980	DI	91	8	WAINWRIGHT CIRCLE	
P0603	2000	DI	292	8	HERITAGE PATH	
P0604	2000	DI	700	8	HERITAGE PATH	
P0605	2000	DI	89	10	HERITAGE PATH	
P0606	1990	DI	411	8	GREENWOOD DRIVE	
P0607	1970	Iron	529	12	PLAIN STREET	
P0608	1990	DI	374	10	SPRING STREET	
P0609	1980	DI	474	8	MAIN STREET	
P0610	0		490	8	STONEBROOK DRIVE	
P0611	1970	Iron	329	8	ENVIRONMENTAL DRIVE	
P0612	1960	Suspected Unlined	1356	8	ISLAND ROAD	
P0613	1980	DI	535	12	ORCHARD STREET	
P0614	1980	DI	236	12	ORCHARD STREET	
P0615	1980	DI	726	12	ORCHARD STREET	
P0616	1970	Iron	439	10	UNION STREET	
P0617	1990	DI	639	10	WATER STREET	
P0618	1970	Iron	724	10	LAVENDAR STREET	
P0619	2000	DI	324	10	WATER STREET	
P0620	2000	DI	22	8	WATER STREET	
P0621	1970	Iron	48	8	DANIELS STREET	
P0622	2000	DI	18	8	WATER STREET	
P0623	2000	DI	721	8	WATER STREET	
P0624	2005	DI	325	8	PINE HOUSE DRIVE	
P0625	2005	DI	319	8	PINE HOUSE DRIVE	
P0626	2005	DI	441	8	PINE HOUSE DRIVE	
P0627	2000	DI	582	8	ROLLING MEADOW DR	
P0628	2000	DI	432	8	PADDOCK LANE	
P0629	2005	DI	423	8	BLUEBERRY LANE	
P0630	2000	DI	455	8	GRANITE DRIVE	
P0631	2000	DI	374	8	SANDSTONE LANE	
P0632	2000	DI	566	8	ROSE ROAD	
P0633	2000	DI	382	8	TARA ROAD	
P0634	2000	DI	365	8	TRACY ROAD	
P0635	2000	DI	344	8	RYAN ROAD	
P0636	1980	Iron	403	8	SPENCER STREET	
P0637	1990	DI	2053	12	WALNUT STREET	
P0638	1960	AC	1092	8	AUBURN ROAD	
P0639	1980	Iron	313	10	FARM STREET	
P0640	1970	Iron	429	10	MIDDLESEX STREET	
P0641	1980	DI	429	12	UNION STREET	

PIPE ID	INST YEAR	MATERIAL	LENGTH	DIAM	STREET	COMMENTS
P0642	2000	DI	846	12	MYRTLE STREET	
P0643	2005	DI	514	8	PINE HOUSE DRIVE	
P0644	1990	DI	191	6	SOUTHWOODS CIRCLE	
P0645	2000	DI	462	8	GERALD AVENUE	
P0646	0		90	6	GERALD AVENUE	
P0647	1970	Iron	625	6	MYRTLE STREET	
P0648	1970	Iron	324	6	MYRTLE STREET	
P0649	1950	Unlined	64	6	ORCHARD STREET	
P0650	1950	Unlined	397	6	ORCHARD STREET	
P0651	1950	Unlined	831	6	ORCHARD STREET	
P0652	1950	Unlined	300	6	ORCHARD STREET	
P0653	1950	Unlined	829	6	ORCHARD STREET	
P0654	1980	DI	236	12	ORCHARD STREET	
P0655	1950	Unlined	295	6	ORCHARD STREET	
P0657	1960	Unlined	162	8	WALNUT STREET	
P0658	1960	Unlined	221	8	WALNUT STREET	
P0659	1980	Iron	502	8	WALNUT HILL ROAD	
P0660	1960	Unlined	134	8	WALNUT STREET	
P0661	1990	DI	80	12	WALNUT STREET	
P0662	1960	Unlined	505	8	WALNUT STREET	
P0663	1960	Unlined	363	8	WALNUT STREET	
P0664	1980	Iron	416	8	WALNUT HILL ROAD	
P0665	1980	Iron	245	8	WALNUT HILL ROAD	
P0666	1960	Unlined	141	8	WALNUT STREET	
P0667	1960	Unlined	320	8	WALNUT STREET	
P0668	1960	Unlined	40	8	WALNUT STREET	
P0669	1960	Unlined	39	8	WALNUT STREET	
P0670	1960	Unlined	138	8	WALNUT STREET	
P0671	1960	Copper	93	3	WALNUT STREET	
P0672	1980	Iron	278	8	BROOKVIEW ROAD	
P0673	1980	Iron	291	8	BROOKVIEW ROAD	
P0674	1980	DI	79	12	ORCHARD STREET	
P0675	1980	Iron	599	8	BROOKVIEW ROAD	
P0676	1980	Iron	387	8	BROOKVIEW ROAD	
P0677	1970	Iron	156	10	MIDDLESEX STREET	
P0678	1970	Iron	103	10	MIDDLESEX STREET	
P0679	1970	Iron	629	10	MIDDLESEX STREET	
P0680	1970	Iron	338	10	MIDDLESEX STREET	
P0681	1970	Iron	542	10	MIDDLESEX STREET	
P0682	1970	Iron	788	10	MIDDLESEX STREET	
P0683	1970	Iron	593	10	MIDDLESEX STREET	
P0684	1970	Iron	272	8	RIDGE STREET	
P0685	1970	Iron	433	8	RIDGE STREET	
P0686	1970	Iron	140	8	RIDGE STREET	
P0687	1970	Iron	276	8	RIDGE STREET	
P0688	1970	Iron	172	8	RIDGE STREET	
P0689	1980	DI	513	12	ORCHARD STREET	
P0690	1970	Iron	603	10	MIDDLESEX STREET	
P0691	1970	Iron	522	10	MIDDLESEX STREET	
P0692	1970	Iron	196	10	ORCHARD STREET	

PIPE ID	INST YEAR	MATERIAL	LENGTH	DIAM	STREET	COMMENTS
P0693	1980	DI	360	12	ORCHARD STREET	
P0694	0		6	10	ORCHARD STREET	
P0695	1980	DI	89	12	ORCHARD STREET	
P0696	1980	DI	209	12	ORCHARD STREET	
P0697	1980	DI	499	12	ORCHARD STREET	
P0699	1980	DI	291	12	ORCHARD STREET	
P0700	1970	Iron	76	4	ORCHARD STREET	
P0701	1970	Iron	336	4	ORCHARD STREET	
P0702	1980	DI	763	12	ORCHARD STREET	
P0703	1980	DI	521	12	ORCHARD STREET	
P0704	1980	DI	110	12	ORCHARD STREET	
P0705	1980	DI	100	12	ORCHARD STREET	
P0706	1980	DI	14	12	ORCHARD STREET	
P0707	1980	DI	90	12	RIDGE STREET	
P0708	1980	DI	62	12	RIDGE STREET	
P0709	1970	Unlined	295	6	RIDGE STREET	
P0710	1980	DI	614	12	RIDGE STREET	
P0711	1970	Unlined	726	6	RIDGE STREET	
P0712	1980	DI	564	12	RIDGE STREET	
P0713	1970	Unlined	285	6	CAUSEWAY STREET	
P0714	1970	Unlined	294	6	CAUSEWAY STREET	
P0715	1970	Iron	162	6	CAUSEWAY STREET	
P0716	2000	DI	530	8	PADDOCK LANE	
P0717	2000	DI	291	8	ROLLING MEADOW DR	
P0718	2000	DI	502	8	ROLLING MEADOW DR	
P0719	2000	DI	358	8	PADDOCK LANE	
P0720	2000	DI	81	8	ROLLING MEADOW DR	
P0721	1980	DI	186	12	RIDGE STREET	
P0722	1980	DI	21	12	UNION STREET	
P0723	1980	DI	22	12	UNION STREET	
P0724	1970	Iron	35	10	RIDGE STREET	
P0725	1970	Iron	164	10	RIDGE STREET	
P0726	1990	CL Iron	960	8	EXCHANGE STREET	
P0727	1980	DI	110	12	RIDGE STREET	
P0728	1960	Suspected Unlined	83	8	ISLAND ROAD	
P0729	1990	CL Iron	56	8	EXCHANGE STREET	
P0730	1990	CL Iron	98	8	EXCHANGE STREET	
P0731	1990	CL Iron	544	8	EXCHANGE STREET	
P0732	0		13	8	UNKNOWN	
P0733	1970	DI	142	8	KEY STREET	
P0734	1970	DI	398	8	KEY STREET	
P0735	1960	Suspected Unlined	82	6	MAPLE AVENUE	
P0736	1990	CL Iron	335	8	EXCHANGE STREET	
P0737	1960	Suspected Unlined	55	4	OAKVIEW AVENUE	
P0738	1970	DI	234	8	OAKVIEW AVENUE	
P0739	1980	DI	510	12	UNION STREET	
P0740	1980	DI	80	12	UNION STREET	
P0741	1970	Iron	24	8	UNION STREET	
P0742	1980	DI	495	12	UNION STREET	
P0743	1980	DI	19	12	UNION STREET	

PIPE ID	INST YEAR	MATERIAL	LENGTH	DIAM	STREET	COMMENTS
P0744	1980	DI	39	12	UNION STREET	
P0745	0		15	8	ROSENFELD ROAD	
P0746	1990	CL Iron	185	8	EXCHANGE STREET	
P0747	1980	DI	169	6	SHANNON LANE	
P0748	1990	CL Iron	273	8	EXCHANGE STREET	
P0750	1980	DI	587	6	MORSE AVENUE	
P0751	1980	DI	382	12	UNION STREET	
P0752	1980	DI	329	12	UNION STREET	
P0753	1990	CL Iron	45	8	EXCHANGE STREET	
P0754	1960	Suspected Unlined	284	6	VANKLEECK ROAD	
P0755	1970	Iron	365	8	VANKLEECK ROAD	
P0756	1990	CL Iron	29	8	EXCHANGE STREET	
P0757	1990	Iron	244	8	SOUTHWOODS CIRCLE	
P0758	1990	DI	217	6	SOUTHWOODS CIRCLE	
P0759	1990	Iron	94	8	SOUTHWOODS CIRCLE	
P0760	1980	DI	420	8	ISLAND ROAD	
P0761	1980	DI	411	8	ISLAND ROAD	
P0762	1980	DI	389	8	TIMBERLINE ROAD	
P0763	1980	DI	467	8	TIMBERLINE ROAD	
P0764	1980	DI	520	8	TIMBERLINE ROAD	
P0765	1980	DI	275	8	TIMBERLINE ROAD	
P0766	1980	DI	138	8	TIMBERLINE ROAD	
P0767	1980	DI	201	8	TIMBERLINE ROAD	
P0768	1980	DI	329	8	TIMBERLINE ROAD	
P0769	1980	DI	322	8	TIMBERLINE ROAD	
P0770	1980	DI	366	8	TIMBERLINE ROAD	
P0771	1980	DI	155	8	TIMBERLINE ROAD	
P0772	1980	DI	123	8	TIMBERLINE ROAD	
P0773	1980	DI	106	8	TIMBERLINE ROAD	
P0774	1970	Suspected Unlined	8	8	EXCHANGE STREET	
P0775	1970	Suspected Unlined	29	8	EXCHANGE STREET	
P0776	1980	DI	111	12	UNION STREET	
P0777	0		14	8	CLARK ROAD	
P0778	1970	Suspected Unlined	311	8	CLARK ROAD	
P0779	1970	Suspected Unlined	472	8	POLLARD DRIVE	
P0780	1970	Suspected Unlined	327	8	EXCHANGE STREET	
P0781	1970	Suspected Unlined	186	8	EXCHANGE STREET	
P0783	1970	Suspected Unlined	70	8	EXCHANGE STREET	
P0784	1970	Suspected Unlined	86	8	EXCHANGE STREET	
P0785	1970	Suspected Unlined	133	8	EXCHANGE STREET	
P0786	1970	Suspected Unlined	214	8	EXCHANGE STREET	
P0787	1960	Suspected Unlined	193	6	LAVENDAR STREET	
P0788	1980	DI	161	10	EXCHANGE STREET	
P0789	1980	DI	154	10	EXCHANGE STREET	
P0790	1980	DI	304	10	EXCHANGE STREET	
P0791	1980	DI	186	8	MAIN STREET	
P0792	0		4	10	CROSS COUNTRY	
P0793	1970	Iron	162	10	LAVENDAR STREET	
P0794	1970	Suspected Unlined	447	6	CURVE STREET	
P0795	1970	Suspected Unlined	358	6	CURVE STREET	

PIPE ID	INST YEAR	MATERIAL	LENGTH	DIAM	STREET	COMMENTS
P0796	1970	Iron	86	8	RIDGE STREET	
P0797	1970	Iron	555	8	RIDGE STREET	
P0798	1950	Suspected Unlined	248	6	RIDGE STREET	
P0799	1970	Suspected Unlined	194	8	RIDGE STREET	
P0801	1970	CL Iron	500	12	MAIN STREET	
P0802	0		413	6	AUBURN ROAD	
P0803	1970	Iron	67	8	MAIN STREET	
P0804	1970	Iron	748	8	MAIN STREET	
P0805	1970	Iron	621	8	MAIN STREET	
P0806	1970	Iron	426	8	MAIN STREET	
P0807	1970	Iron	515	8	MAIN STREET	
P0808	1970	Iron	564	8	MAIN STREET	
P0809	1970	Iron	596	8	MAIN STREET	
P0810	1970	Iron	653	8	MAIN STREET	
P0811	1970	Iron	96	8	MAIN STREET	
P0812	1970	CL Iron	245	12	MAIN STREET	
P0813	1970	Iron	713	12	FARM STREET	
P0814	1950	Suspected Unlined	87	6	MAIN STREET	
P0816	1950	Suspected Unlined	117	6	UNKNOWN	
P0817	1950	Suspected Unlined	118	6	UNKNOWN	
P0818	1970	Iron	968	8	PLEASANT STREET	
P0819	1970	CL Iron	43	12	MAIN STREET	
P0820	1980	DI	331	10	SCHOOL ROAD	
P0821	1980	DI	227	10	SCHOOL ROAD	
P0822	1980	DI	160	10	SCHOOL ROAD	
P0823	1980	DI	353	10	SCHOOL ROAD	
P0824	1970	Iron	71	6	SCHOOL ROAD	
P0825	1970	Iron	224	6	SCHOOL ROAD	
P0826	1970	Iron	231	6	MCCABE AVENUE	
P0827	1970	Iron	430	10	MAIN STREET	
P0828	0		20	10	MAIN STREET	
P0829	1970	Iron	79	10	MAIN STREET	
P0830	1970	Iron	460	10	MAIN STREET	
P0831	1970	Iron	123	12	PLAIN STREET	
P0832	1970	Iron	220	12	PLAIN STREET	
P0833	1970	Iron	148	12	PLAIN STREET	
P0834	1970	Iron	455	6	SCHOOL ROAD	
P0835	1980	DI	29	10	SCHOOL ROAD	
P0836	1980	DI	47	10	SCHOOL ROAD	
P0837	1980	DI	98	10	SCHOOL ROAD	
P0838	0		16	10	SCHOOL ROAD	
P0839	1960	Suspected Unlined	404	8	MAIN STREET	
P0840	1960	Suspected Unlined	67	6	LARCH ROAD	
P0841	1960	Suspected Unlined	660	8	MAIN STREET	
P0842	1970	Unlined	375	8	DOVER ROAD	
P0843	1970	Unlined	386	8	DOVER ROAD	
P0844	0		51	8	IRON WOOD DRIVE	
P0845	1980	Iron	272	8	IRON WOOD DRIVE	
P0846	1980	Iron	148	8	IRON WOOD DRIVE	
P0847	1980	Iron	132	8	KING PHILIP DRIVE	

PIPE ID	INST YEAR	MATERIAL	LENGTH	DIAM	STREET	COMMENTS
P0848	1970	Unlined	438	8	DOVER ROAD	
P0849	1970	Unlined	128	8	DOVER ROAD	
P0850	1970	Unlined	334	8	DOVER ROAD	
P0851	0		12	8	ISLAND ROAD	
P0852	1970	Unlined	287	8	DOVER ROAD	
P0853	1970	Unlined	395	8	DOVER ROAD	
P0854	1970	Unlined	346	8	DOVER ROAD	
P0855	1970	Unlined	172	8	DOVER ROAD	
P0856	1970	Unlined	255	8	DOVER ROAD	
P0857	1970	Unlined	529	8	DOVER ROAD	
P0858	0		16	8	KLIFORD CIRCLE	
P0859	1980	Iron	537	8	KLIFORD CIRCLE	
P0860	1980	Iron	672	8	CRESTVIEW DRIVE	
P0861	1980	Iron	350	8	CRESTVIEW DRIVE	
P0862	1980	Iron	86	8	CRESTVIEW DRIVE	
P0863	1980	Iron	75	8	CRESTVIEW DRIVE	
P0864	1980	Iron	159	8	CRESTVIEW DRIVE	
P0865	1980	Iron	638	8	CRESTVIEW DRIVE	
P0866	1970	Unlined	123	8	DOVER ROAD	
P0867	1970	Unlined	122	8	DOVER ROAD	
P0868	1970	Unlined	457	8	DOVER ROAD	
P0869	1980	Iron	57	8	J WILLIAM HEIGHTS	
P0870	1980	Iron	374	8	J WILLIAM HEIGHTS	
P0871	1970	Unlined	257	8	DOVER ROAD	
P0872	1950	Suspected Unlined	151	6	COTTAGE AVENUE	
P0873	1950	Suspected Unlined	95	6	COTTAGE AVENUE	
P0874	1970	Unlined	252	8	MAIN STREET	
P0875	0		28	8	MAIN STREET	
P0876	1970	Iron	124	8	MAIN STREET	
P0877	1990	CL Iron	133	8	EXCHANGE STREET	
P0878	1970	Iron	215	8	UNION STREET	
P0879	1970	Iron	161	8	UNION STREET	
P0880	1970	Iron	359	8	UNION STREET	
P0881	1970	Iron	147	6	PARNELL STREET	
P0882	1970	Iron	306	6	BUDDIE KEARNEY LN	
P0883	1970	Iron	88	8	UNION STREET	
P0884	1970	Iron	210	6	WINTER STREET	
P0885	1970	Iron	77	6	COTTAGE STREET	
P0887	1970	Iron	88	8	MAIN STREET	
P0889	1960	Suspected Unlined	212	8	HILL TOP DRIVE	
P0890	1970	Iron	251	8	MAIN STREET	
P0891	1960	Suspected Unlined	637	8	HILL TOP DRIVE	
P0892	1960	Suspected Unlined	499	8	HILL TOP DRIVE	
P0893	1960	Suspected Unlined	858	8	HILL TOP DRIVE	
P0894	1960	Suspected Unlined	130	8	HILL TOP DRIVE	
P0895	1960	Suspected Unlined	164	8	HILL TOP DRIVE	
P0896	1970	Iron	341	8	MAIN STREET	
P0897	1970	Iron	78	8	MAIN STREET	
P0898	1970	Iron	72	8	MAIN STREET	
P0899	1970	Iron	245	8	MAIN STREET	

PIPE ID	INST YEAR	MATERIAL	LENGTH	DIAM	STREET	COMMENTS
P0900	1990	DI	264	6	WOODLAWN DRIVE	
P0901	1970	Iron	142	8	MAIN STREET	
P0902	1970	Iron	144	8	MAIN STREET	
P0903	1970	DI	235	12	MAIN STREET	
P0904	1970	Iron	204	10	MAIN STREET	
P0905	1970	Iron	222	10	MAIN STREET	
P0906	0		217	8	BAYBERRY CIRCLE	
P0907	0		343	8	BAYBERRY CIRCLE	
P0908	0		204	8	HEMLOCK CIRCLE	
P0909	0		301	8	HEMLOCK CIRCLE	
P0910	0		253	8	HEMLOCK CIRCLE	
P0911	0		229	8	HEMLOCK CIRCLE	
P0912	0		200	8	HEMLOCK CIRCLE	
P0913	0		331	8	HEMLOCK CIRCLE	
P0914	0		407	8	HEMLOCK CIRCLE	
P0915	0		140	8	HEMLOCK CIRCLE	
P0916	0		104	8	BAYBERRY CIRCLE	
P0917	0		320	8	BAYBERRY CIRCLE	
P0918	0		83	8	MILLISTON ROAD	
P0919	0		91	6	MILLISTON ROAD	
P0920	0		47	8	MILLISTON ROAD	
P0921	0		207	8	MILLISTON ROAD	
P0922	0		24	8	STONEBROOK DRIVE	
P0923	1970	Iron	146	6	ADAMS STREET	
P0924	1970	Iron	98	6	ADAMS STREET	
P0925	1960	Suspected Unlined	1237	8	CROSS COUNTRY	
P0926	1970	Iron	35	8	ADAMS STREET	
P0927	1970	Iron	186	10	UNION STREET	
P0928	1970	Iron	598	8	DANIELS STREET	
P0929	1970	Iron	21	8	DANIELS STREET	
P0930	1970	Iron	75	8	DANIELS STREET	
P0932	1970	Iron	378	8	VANKLEECK ROAD	
P0933	1970	Iron	341	8	UNION STREET	
P0934	1970	Iron	165	8	UNION STREET	
P0935	1970	Iron	25	10	UNION STREET	
P0936	1970	Iron	239	10	CURVE STREET	
P0937	1970	Iron	231	6	IRVING STREET	
P0938	1970	Iron	66	10	IRVING STREET	
P0939	1970	Iron	27	10	IRVING STREET	
P0940	1980	DI	314	8	CURVE STREET	
P0941	1980	DI	141	8	CURVE STREET	
P0942	1960	Suspected Unlined	16	6	HIGH STREET	
P0943	1960	Suspected Unlined	323	6	HIGH STREET	
P0944	2000	DI	14	8	WATER STREET	
P0945	2000	DI	179	8	WATER STREET	
P0946	2000	DI	13	8	WATER STREET	
P0947	2000	DI	62	10	DANIELS STREET	
P0948	0		38	10	UNION STREET	
P0949	2000	DI	37	10	WATER STREET	
P0950	2000	DI	285	10	WATER STREET	

PIPE ID	INST YEAR	MATERIAL	LENGTH	DIAM	STREET	COMMENTS
P0951	1970	Iron	200	6	WATER STREET	
P0952	2000	DI	77	10	WATER STREET	
P0953	2000	DI	87	10	WATER STREET	
P0954	2000	DI	228	10	WATER STREET	
P0955	1970	Iron	1163	6	CROSS COUNTRY	
P0957	1970	DI	222	8	VILLAGE STREET	
P0958	2000	DI	174	8	HERITAGE PATH	
P0959	2000	DI	519	8	HERITAGE PATH	
P0960	2000	DI	353	8	HERITAGE PATH	
P0961	1970	DI	217	8	VILLAGE STREET	
P0962	1990	DI	17	12	VILLAGE STREET	
P0963	1970	Iron	42	12	CROSS COUNTRY	
P0964	1970	Iron	671	8	BIRCH STREET	
P0965	1970	Iron	572	6	FOREST ROAD	
P0966	1990	DI	797	12	VILLAGE STREET	
P0967	1990	DI	465	12	VILLAGE STREET	
P0968	1990	DI	231	12	VILLAGE STREET	
P0969	1990	DI	321	8	FOREST ROAD	
P0970	1990	DI	426	8	FOREST ROAD	
P0971	1990	DI	61	8	FOREST ROAD	
P0972	1990	DI	341	8	FOREST ROAD	
P0973	1980	DI	433	8	BOW STREET	
P0974	1980	DI	510	8	BOW STREET	
P0975	1980	DI	602	8	BOW STREET	
P0976	1990	DI	59	8	FOREST ROAD	
P0977	1970	Iron	111	12	PLAIN STREET	
P0978	1970	Iron	432	12	PLAIN STREET	
P0979	1970	Iron	395	12	PLAIN STREET	
P0980	2000	DI	364	8	CASTLE ROAD	
P0981	0		31	8	CLEWES ROAD	
P0982	2000	DI	84	8	SHERMAN ROAD	
P0983	1990	DI	23	12	VILLAGE STREET	
P0984	1990	DI	90	12	VILLAGE STREET	
P0985	1990	DI	475	12	VILLAGE STREET	
P0986	1990	DI	79	12	VILLAGE STREET	
P0987	1990	DI	480	12	VILLAGE STREET	
P0988	1990	DI	437	12	VILLAGE STREET	
P0989	1990	DI	235	12	VILLAGE STREET	
P0990	1970	Iron	244	12	PLAIN STREET	
P0991	1970	Iron	298	12	PLAIN STREET	
P0992	1970	Iron	233	12	PLAIN STREET	
P0993	1990	DI	441	12	VILLAGE STREET	
P0994	1990	DI	135	12	VILLAGE STREET	
P0995	1970	Iron	242	12	VILLAGE STREET	
P0996	1970	Iron	314	12	VILLAGE STREET	
P0997	1970	Iron	127	12	VILLAGE STREET	
P0998	1970	Iron	467	12	VILLAGE STREET	
P0999	2005	DI	73	8	BLUEBERRY LANE	
P1000	1970	Iron	87	12	VILLAGE STREET	
P1001	1970	Iron	154	12	VILLAGE STREET	

PIPE ID	INST YEAR	MATERIAL	LENGTH	DIAM	STREET	COMMENTS
P1002	1970	Iron	80	12	VILLAGE STREET	
P1003	2005	DI	104	8	PINE HOUSE DRIVE	
P1004	1960	Suspected Unlined	254	8	BALTIMORE STREET	
P1005	1970	Iron	183	6	DEAN STREET	
P1006	1970	Iron	432	6	DEAN STREET	
P1007	2000	DI	202	12	PLEASANT STREET	
P1008	2000	DI	375	12	PLEASANT STREET	
P1009	2000	DI	852	12	PLEASANT STREET	
P1010	0		7	12	PLEASANT STREET	
P1011	2000	DI	239	12	MYRTLE STREET	
P1012	2000	DI	67	12	MYRTLE STREET	
P1014	1970	Iron	65	6	MYRTLE STREET	
P1015	2000	DI	139	8	GRANITE DRIVE	
P1016	2000	DI	319	8	GRANITE DRIVE	
P1017	2000	DI	429	8	GRANITE DRIVE	
P1018	2000	DI	126	8	SANDSTONE LANE	
P1019	2000	DI	406	8	GRANITE DRIVE	
P1020	2000	DI	185	8	GRANITE DRIVE	
P1021	2000	DI	404	8	GRANITE DRIVE	
P1022	1970	Iron	304	10	HIMELFARB STREET	
P1023	1970	Iron	520	10	HIMELFARB STREET	
P1024	1970	Iron	155	10	HIMELFARB STREET	
P1025	1970	Iron	314	10	HIMELFARB STREET	
P1026	1970	Iron	455	10	HIMELFARB STREET	
P1027	1970	Iron	481	10	HIMELFARB STREET	
P1028	2000	DI	453	12	VILLAGE STREET	
P1029	2000	DI	223	12	VILLAGE STREET	
P1030	2000	DI	379	12	VILLAGE STREET	
P1031	0		8	8	ROSE ROAD	
P1032	2000	DI	74	8	ROSE ROAD	
P1033	2000	DI	274	8	TRACY ROAD	
P1034	2000	DI	62	8	ROSE ROAD	
P1035	2000	DI	516	8	ROSE ROAD	
P1036	2000	DI	155	8	TARA ROAD	
P1037	2000	DI	539	8	RYAN ROAD	
P1038	2000	DI	315	8	RYAN ROAD	
P1039	0		27	8	RYAN ROAD	
P1040	2000	DI	211	8	RYAN ROAD	
P1041	2000	DI	40	8	TRACY ROAD	
P1042	2000	DI	726	12	VILLAGE STREET	
P1043	2000	DI	173	12	VILLAGE STREET	
P1044	2000	DI	700	12	VILLAGE STREET	
P1045	2000	DI	262	12	VILLAGE STREET	
P1046	2000	DI	421	12	PLEASANT STREET	
P1047	1980	DI	186	8	DYER STREET	
P1048	1980	DI	194	8	DYER STREET	
P1049	1970	Iron	208	8	SPRING STREET	
P1050	1970	Iron	231	8	SPRING STREET	
P1051	1990	DI	399	6	SPRING STREET	
P1052	1990	DI	12	8	GREENWOOD DRIVE	

PIPE ID	INST YEAR	MATERIAL	LENGTH	DIAM	STREET	COMMENTS
P1053	1990	DI	84	8	GREENWOOD DRIVE	
P1054	1970	Iron	116	12	FARM STREET	
P1055	1970	Iron	104	10	SPENCER STREET	
P1056	1970	Iron	339	6	SPENCER STREET	
P1057	1980	Iron	321	8	SPENCER STREET	
P1058	1980	Iron	361	8	SPENCER STREET	
P1059	1980	Iron	300	8	SPENCER STREET	
P1061	1970	Iron	212	8	PLEASANT STREET	
P1062	1970	Iron	768	8	PLEASANT STREET	
P1063	1970	Iron	484	8	PLEASANT STREET	
P1064	1970	Iron	235	8	PLEASANT STREET	
P1065	1970	Iron	400	8	PLEASANT STREET	
P1066	1970	Iron	387	8	PLEASANT STREET	
P1067	1970	Iron	565	8	PLEASANT STREET	
P1068	1970	Iron	155	12	VILLAGE STREET	
P1069	1990	DI	88	8	CONGRESS STREET	
P1070	1990	DI	44	8	CONGRESS STREET	
P1071	1970	Iron	671	10	ACORN STREET	
P1072	1970	Iron	105	10	ACORN STREET	
P1073	1970	Iron	606	10	ACORN STREET	
P1074	1970	Iron	550	10	ACORN STREET	
P1075	1970	Iron	557	10	ACORN STREET	
P1076	1970	Iron	405	10	ACORN STREET	
P1077	1970	Iron	459	10	ACORN STREET	
P1078	1970	Iron	470	10	ACORN STREET	
P1079	1970	Iron	43	12	FARM STREET	
P1080	1960	Suspected Unlined	155	6	CEDAR STREET	
P1081	1970	Iron	510	12	FARM STREET	
P1082	1970	Iron	52	12	FARM STREET	
P1083	1970	Iron	185	12	FARM STREET	
P1084	1970	Iron	246	12	FARM STREET	
P1085	1970	Iron	435	12	FARM STREET	
P1086	1970	Iron	521	12	FARM STREET	
P1087	1970	Iron	492	12	FARM STREET	
P1088	1970	Iron	481	12	FARM STREET	
P1089	1970	Iron	22	12	FARM STREET	
P1090	1970	Iron	14	12	FARM STREET	
P1091	1970	Iron	88	12	FARM STREET	
P1092	1970	Iron	152	6	ALMA ROAD	
P1093	1970	Iron	249	12	FARM STREET	
P1094	1980	Iron	257	10	FARM STREET	
P1095	1980	Iron	543	10	FARM STREET	
P1096	1980	Iron	285	10	FARM STREET	
P1097	1980	Iron	288	10	FARM STREET	
P1098	1980	Iron	640	10	FARM STREET	
P1099	1980	Iron	539	10	FARM STREET	
P1100	1980	Iron	277	10	FARM STREET	
P1101	1970	Iron	331	8	BRANDYWINE LANE	
P1102	1970	Iron	102	8	BRANDYWINE LANE	
P1103	1970	Iron	56	8	BRANDYWINE LANE	

PIPE ID	INST YEAR	MATERIAL	LENGTH	DIAM	STREET	COMMENTS
P1104	1970	Iron	353	8	INDEPENDENCE LANE	
P1105	1970	Iron	206	8	INDEPENDENCE LANE	
P1106	1970	Iron	266	8	TICONDEROGA LANE	
P1107	1970	Iron	259	8	TICONDEROGA LANE	
P1108	1970	Iron	374	8	LEXINGTON LANE	
P1109	1970	Iron	169	8	LEXINGTON LANE	
P1110	1970	Iron	276	8	LEXINGTON LANE	
P1111	1970	Iron	322	8	LEXINGTON LANE	
P1112	1970	Iron	19	8	SARATOGA TERRACE	
P1113	1970	Iron	418	8	SARATOGA TERRACE	
P1114	1970	Iron	128	8	LEXINGTON LANE	
P1115	1970	Iron	211	8	TICONDEROGA LANE	
P1116	1970	Iron	251	8	TICONDEROGA LANE	
P1117	1970	Iron	335	8	TICONDEROGA LANE	
P2000	1970	Iron	121	12	CROSS COUNTRY	
P2001	1970	Iron	238	8	CONCORD CIRCLE	
P2002	1970	Iron	515	8	MAIN STREET	
P2003	1960	Unlined	350	8	WALNUT STREET	
P2004	2000	DI	55	12	VILLAGE STREET	
P2006	1990	CL Iron	273	8	EXCHANGE STREET	
P2007	1970	Iron	202	10	HIMELFARB STREET	
P2008	0		8	8	BLUEBERRY LANE	
P2009	1970	Iron	157	10	MAIN STREET	
P2010	1990	DI	303	10	SPRING STREET	
P2011	1990	DI	146	10	SPRING STREET	
P2012	2000	DI	67	8	HERITAGE PATH	
P2013	1990	DI	250	12	WALNUT STREET	
P2014	1980	DI	12	12	ORCHARD STREET	
P2015	2000	DI	22	8	WATER STREET	
P2016	2000	DI	12	8	WATER STREET	
P2017	1980	DI	32	12	ORCHARD STREET	
P2018	1970	Iron	176	12	VILLAGE STREET	
P2019	1990	DI	1198	12	NORFOLK ROAD	
P2020	0		62	12	CROSS COUNTRY	
P2021	0		51	12	CROSS COUNTRY	
P2022	0		182	12	CROSS COUNTRY	
P2023	0		82	12	CROSS COUNTRY	
P2024	1990	DI	4847	12	CROSS COUNTRY	
P2025	1990	DI	713	12	NORFOLK ROAD	
P2026	1990	DI	1244	12	CROSS COUNTRY	
P2027	1990	CL Iron	234	8	EXCHANGE STREET	
P2028	2000	DI	354	8	HERITAGE PATH	
P2029	2000	DI	458	8	ROSE ROAD	
P2030	1970	Iron	70	8	MAIN STREET	
P2031	1970	CL Iron	530	12	MAIN STREET	
P2032	1980	DI	145	8	MAIN STREET	
P2033	2000	DI	249	6	RAILROAD AVENUE	
P2034	1970	Iron	230	8	DANIELS STREET	
P2036	1970	Iron	279	8	CROSS COUNTRY	
P2037	1990	DI	39	10	DANIELS STREET	

PIPE ID	INST YEAR	MATERIAL	LENGTH	DIAM	STREET	COMMENTS
P2038	1960	Suspected Unlined	953	6	DANIELS STREET	
P2039	1970	Iron	443	8	ROSENFELD ROAD	
P2040	1970	Iron	2610	10	ORCHARD STREET	
P2041	1980	DI	508	12	ORCHARD STREET	
P2043	1980	DI	501	12	ORCHARD STREET	
P2044	1970	Iron	1183	10	ORCHARD STREET	
P2045	1970	Iron	288	6	UNKNOWN	
P2046	1970	Iron	320	4	ORCHARD STREET	
P2047	1970	Iron	1036	6	CROSS COUNTRY	
P2048	1970	Iron	204	10	MAIN STREET	
P2049	0		40	8	WATER STREET	
P2050	2000	DI	37	8	WATER STREET	
P2051	0		16	8	WATER STREET	
P2052	0		17	8	WATER STREET	
P2053	0		17	8	WATER STREET	
P2054	1970	Iron	601	12	FARM STREET	
P2055	1970	Iron	74	8	MAIN STREET	
P2056	1970	Unlined	2564	6	UNION STREET	
P0613	1980	DI	535	12	ORCHARD STREET	
	2006	CLDI	994	8	EVERGREEN TERRACE	
	2006	CLDI	2855	8	BEECH STREET	
	2006	CLDI	2556	8	FRONTIER LANE	

Table 2
Town of Millis
Treatment Facilities and Pumping Stations

PROJECT NAME	SOURCE NAME	AGE Yrs.	New - Rehab - Replace - Expand	Type of Need	Year Needed	Cost Estimate	Documentation (From Available Info)
Wells 1,2,3 & 4 Upgrades for Ground Water Rule	Wells 1,2,3 & 4	13-50	Reh/E	New generator & upgrade disinfection systems	2012	\$250,000	Water System Master Plan
Wells 1 & 2 Building Upgrades	Wells 1 & 2	59	Reh	Rehab building and building systems	2014	\$100,000	Facilities Evaluation 5/11
Well 3 Equipment Upgrades	Well 3	50	Reh	Rehab well and pump	2014	\$50,000	Water System Master Plan
Well 4 Well System Upgrades	Well 4	38	Reh	Rehab well and pump	2014	\$50,000	Water System Master Plan
Well 4 Equipment Upgrades	Well 4	38	E	New generator & upgrade disinfection system	2014	\$150,000	Water System Master Plan
Well 4 Building Upgrades	Well 4	38	Reh	Rehab building & building systems	2014	\$100,000	Facilities Evaluation 5/11
Wells 1 & 2 Well System Upgrades	Wells 1 & 2	59	Reh	Rehab wells and pumps	2018	\$80,000	Facilities Evaluation 5/11
D'Angelis WTP Upgrades	Wells 1 & 2, D'Angelis WTP	13	Reh	Rehab building and equipment	2018	\$200,000	Facilities Evaluation 5/11
Well 3 Building Upgrades	Well 3	50	Reh	Rehab building & building systems	2018	\$150,000	Facilities Evaluation 5/11
Paine WTP Upgrades	Wells 5 & 6	11	Reh	Rehab building & equipment	2018	\$200,000	Facilities Evaluation 5/11
Wells 5 & 6 Well System Upgrades	Wells 5 & 6	9	Reh	Rehab wells and pumps	2022	\$80,000	Facilities Evaluation 5/11
Wells 5 & 6 Building Upgrades	Wells 5 & 6	9	Reh	Rehab building & building systems	2022	\$50,000	Facilities Evaluation 5/11

**Table 5
Town of Millis
Water Main Improvements**

Street	Main Size (inches)	Material	Length (feet)	Probable Project Cost (2011 dollars)	Type of Need	Reason for Need	Priority	Documentation	Comments
ACORN STREET	10	Iron	6350	\$1,457,325	Unlined	Water quality improvement	2	2010 WSMP	From Farm St to Village St
ADAMS STREET	8	Iron	250	\$49,725	Unlined	Water quality improvement	2	2010 WSMP	S of Union St
BALTIMORE STREET	8	Suspected Unlined	1380	\$274,482	Unlined	Water quality improvement	2	2010 WSMP	
BIRCH STREET	8	Iron	1380	\$274,482	Unlined	Water quality improvement	2	2010 WSMP	
BIRCH STREET	12	Iron	290	\$73,988	Unlined	Water quality improvement	2	2010 WSMP	W of Village St
BRANDYWINE LANE	8	Iron	925	\$183,983	Unlined	Water quality improvement	2	2010 WSMP	
BROOKVIEW ROAD	8	Iron	2000	\$397,800	Unlined	Water quality improvement	2	2010 WSMP	
CLARK ROAD	8	Suspected Unlined	1060	\$210,834	Unlined	Water quality improvement	2	2010 WSMP	
CLEWES ROAD	8	Unknown	35	\$6,962	Unlined	Water quality improvement	2	2010 WSMP	
CONCORD CIRCLE	8	Iron	550	\$109,395	Unlined	Water quality improvement	2	2010 WSMP	
CONNECTOR ROAD	12	Iron	550	\$140,174	Unlined	Water quality improvement	2	2010 WSMP	Off of Farm St E of Acorn Rd
CRESTVIEW DRIVE	8	Iron	3050	\$606,645	Unlined	Water quality improvement	2	2010 WSMP	
CROSS COUNTRY	8	Iron	450	\$89,505	Unlined	Water quality improvement	2	2010 WSMP	Connect Vankleeck Rd to Water St
CROSS COUNTRY	8	Suspected Unlined	1425	\$283,433	Unlined	Water quality improvement	2	2010 WSMP	Connect Adams St and Lavendar St
CROSS COUNTRY	8	Iron	280	\$55,692	Unlined	Water quality improvement	2	2010 WSMP	Connect Daniels St to Vankleeck Rd
CROSS COUNTRY	10	Iron	925	\$212,288	Unlined	Water quality improvement	2	2010 WSMP	Connect Walnut St and Middlesex St
CROSS COUNTRY	12	Iron	1450	\$369,750	Unlined	Water quality improvement	2	2010 WSMP	N of Birch St
CURVE STREET	10	Iron	550	\$126,225	Unlined	Water quality improvement	2	2010 WSMP	From Union St to Irving St
DANIELS STREET	8	Iron	275	\$54,698	Unlined	Water quality improvement	2	2010 WSMP	From Vankleeck Rd to Water St
ENVIRONMENTAL DRIVE	8	Iron	350	\$69,615	Unlined	Water quality improvement	2	2010 WSMP	
FARM STREET	10	Iron	4250	\$975,375	Unlined	Water quality improvement	2	2010 WSMP	From Village St to 300' N of Ticonderoga Ave
FARM STREET	12	Iron	6770	\$1,726,350	Unlined	Water quality improvement	2	2010 WSMP	From Teconderoga Ln to Pleasant St
HILL TOP DRIVE	8	Suspected Unlined	2500	\$497,250	Unlined	Water quality improvement	2	2010 WSMP	
HIMELFARB STREET	10	Iron	3000	\$688,500	Unlined	Water quality improvement	2	2010 WSMP	
HOLBROOK WAY	8	Iron	850	\$169,065	Unlined	Water quality improvement	2	2010 WSMP	
INDEPENDENCE LANE	8	Iron	950	\$188,955	Unlined	Water quality improvement	2	2010 WSMP	
IRON WOOD DRIVE	8	Iron	750	\$149,175	Unlined	Water quality improvement	2	2010 WSMP	
IRVING STREET	10	Iron	785	\$180,158	Unlined	Water quality improvement	2	2010 WSMP	W of Daniels St
ISLAND ROAD	8	Iron	900	\$179,010	Unlined	Water quality improvement	2	2010 WSMP	Off of Dover Rd N of Crestview Dr
ISLAND ROAD	8	Suspected Unlined	2010	\$399,789	Unlined	Water quality improvement	2	2010 WSMP	Between Ridge St and Exchange St
KING PHILIP DRIVE	8	Iron	1790	\$356,031	Unlined	Water quality improvement	2	2010 WSMP	
KLIFORD CIRCLE	8	Iron	575	\$114,368	Unlined	Water quality improvement	2	2010 WSMP	
LAVENDAR STREET	10	Iron	885	\$203,108	Unlined	Water quality improvement	2	2010 WSMP	Between Exchange St and Union St
LEXINGTON LANE	8	Iron	3225	\$641,453	Unlined	Water quality improvement	2	2010 WSMP	
MAIN STREET	8	Iron	1675	\$333,158	Unlined	Water quality improvement, hydrant flows	1	2010 WSMP	W of Union St
MAIN STREET	10	Iron	2385	\$547,358	Unlined	Water quality improvement	2	2010 WSMP	From School Rd to Millison Rd
MIDDLESEX STREET	10	Iron	4725	\$1,084,388	Unlined	Water quality improvement	2	2010 WSMP	From Orchard St to End
ORCHARD STREET	10	Iron	4000	\$918,000	Unlined	Water quality improvement	2	2010 WSMP	From Middlesex St to end of 10"
PLAIN STREET	12	Iron	4250	\$1,083,750	Unlined	Water quality improvement	2	2010 WSMP	From Main St to Village St
PLEASANT STREET	8	Iron	6030	\$1,199,367	Unlined	Water quality improvement	2	2010 WSMP	Between Main St and Village St
POLLARD DRIVE	8	Suspected Unlined	1600	\$318,240	Unlined	Water quality improvement	2	2010 WSMP	
RIDGE STREET	8	Suspected Unlined	500	\$99,450	Unlined	Water quality improvement	2	2010 WSMP	N of Auburn Rd
RIDGE STREET	8	Iron	1530	\$304,317	Unlined	Water quality improvement	2	2010 WSMP	Between Middlesex St and Orchard St
RIDGE STREET	8	Iron	1225	\$243,653	Unlined	Water quality improvement	2	2010 WSMP	N of Auburn Rd
RIDGE STREET	10	Iron	625	\$143,438	Unlined	Water quality improvement	2	2010 WSMP	S of Union St
ROSENFELD ROAD	8	Iron	950	\$188,955	Unlined	Water quality improvement	2	2010 WSMP	
SARATOGA TERRACE	8	Iron	925	\$183,983	Unlined	Water quality improvement	2	2010 WSMP	
SCHOOL ROAD	10	Iron	910	\$208,845	Unlined	Water quality improvement	2	2010 WSMP	
SOUTHWOODS CIRCLE	8	Iron	775	\$154,148	Unlined	Water quality improvement	2	2010 WSMP	
SPENCER STREET	8	Iron	1400	\$278,460	Unlined	Water quality improvement	2	2010 WSMP	
SPENCER STREET	10	Iron	110	\$25,245	Unlined	Water quality improvement	2	2010 WSMP	E of Acorn St
SPRING STREET	8	Iron	1000	\$198,900	Unlined	Water quality improvement	2	2010 WSMP	
TICONDEROGA LANE	8	Iron	3025	\$601,673	Unlined	Water quality improvement	2	2010 WSMP	
UNION STREET	8	Iron	1600	\$318,240	Unlined	Water quality improvement	2	2010 WSMP	From Daniels St to Main St
UNION STREET	8	Iron	975	\$193,928	Unlined	Water quality improvement	2	2010 WSMP	From Curve St to Exchange St
UNION STREET	10	Iron	1030	\$236,385	Unlined	Water quality improvement	2	2010 WSMP	From Curve St to Daniels St
UNKNOWN	8	Suspected Unlined	160	\$31,824	Unlined	Water quality improvement	2	2010 WSMP	Western end of Curve St
VANKLEECK ROAD	8	Iron	750	\$149,175	Unlined	Water quality improvement	2	2010 WSMP	
VILLAGE STREET	12	Iron	3025	\$771,375	Unlined	Water quality improvement	2	2010 WSMP	From Main St to Forest St
WALNUT HILL ROAD	8	Iron	1975	\$392,828	Unlined	Water quality improvement	2	2010 WSMP	
WALNUT STREET	8	Unlined	2450	\$487,305	Unlined	Water quality improvement	2	2010 WSMP	From Orchard St to End
ADAMS STREET	6	Iron	525	\$104,423	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	
ALMA ROAD	6	Iron	625	\$124,313	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	
AUBURN ROAD	6	Unknown	425	\$84,533	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	N of Main St
BUDDIE KEARNEY LANE	6	Iron	310	\$61,659	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	
CAUSEWAY STREET	6	Unlined	1675	\$333,158	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	
CEDAR STREET	6	Suspected Unlined	1100	\$218,790	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	
COLE STREET	6	Suspected Unlined	380	\$75,582	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	
CONWAY ROAD	6	Suspected Unlined	500	\$99,450	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	
COTTAGE AVENUE	6	Suspected Unlined	450	\$89,505	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	
COTTAGE STREET	6	Iron	530	\$105,417	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	
CROSS COUNTRY	4	Suspected Unlined	625	\$124,313	Undersized	Pressure and flow improvement	2	2010 WSMP	Off of Exchange St S of Island Rd
CROSS COUNTRY	6	DI	375	\$74,588	Undersized	Pressure and flow improvement	3	2010 WSMP	Connects Shannon Ln and Morse Ave
CROSS COUNTRY	6	Unknown	800	\$159,120	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	Off of Milliston Rd
CROSS COUNTRY	6	Suspected Unlined	310	\$61,659	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	Off of Cottage Rd
CROSS COUNTRY	6	Iron	2475	\$492,278	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	Off of Water St
CROSS COUNTRY	6	Iron	1050	\$208,845	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	W of Orchard Rd
CURVE STREET	6	Suspected Unlined	1475	\$293,378	Unlined/Undersized	Water quality, pressure and flow improvement, hydrant flows	1	2010 WSMP	From Ridge St to Plain St

**Table 5
Town of Millis
Water Main Improvements**

Street	Main Size (inches)	Material	Length (feet)	Probable Project Cost (2011 dollars)	Type of Need	Reason for Need	Priority	Documentation	Comments
DEAN STREET	6	Iron	1775	\$353,048	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	
FOREST ROAD	6	Iron	150	\$29,835	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	West of Plain St
FOREST ROAD	6	Iron	3325	\$661,343	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	West of Village St
HIGH STREET	6	Suspected Unlined	350	\$69,615	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	
HOLBROOK WAY	6	Unknown	325	\$64,643	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	
IRVING STREET	6	Iron	575	\$114,368	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	
ISLAND ROAD	2	Unknown	330	\$65,637	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	
ISLAND ROAD	6	Iron	750	\$149,175	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	From Exchange St to Timberline St
LARCH ROAD	6	Suspected Unlined	950	\$188,955	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	
LAVENDAR STREET	6	Suspected Unlined	725	\$144,203	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	W of Plain St
MAPLE AVENUE	6	Suspected Unlined	500	\$99,450	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	
MCCABE AVENUE	6	Iron	625	\$124,313	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	
MORSE AVENUE	6	DI	600	\$119,340	Undersized	Pressure and flow improvement	3	2010 WSMP	
OAKVIEW AVENUE	4	Suspected Unlined	450	\$89,505	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	W of Exchange St
ORCHARD STREET	4	Iron	850	\$169,065	Unlined/Undersized	Water quality, pressure and flow improvement, hydrant flows	1	2010 WSMP	Northern most end of the system
PARNELL STREET	6	Iron	575	\$114,368	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	
PINE VIEW	6	DI	475	\$94,478	Undersized	Pressure and flow improvement	3	2010 WSMP	
PLAIN STREET	6	Iron	675	\$134,258	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	2 segments N of Main St
RAILROAD AVENUE	6	DI	250	\$49,725	Undersized	Pressure and flow improvement	3	2010 WSMP	
RIDGE STREET	6	Unknown	275	\$54,698	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	Near intersection w. Pleasant and Main
ROSS STREET	6	Iron	450	\$89,434	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	
SCHOOL ROAD	6	Iron	580	\$115,362	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	
SHANNON LANE	6	DI	225	\$44,753	Undersized	Pressure and flow improvement	3	2010 WSMP	
SOUTHWOODS CIRCLE	6	DI	425	\$84,533	Undersized	Pressure and flow improvement	3	2010 WSMP	
SPENCER STREET	6	Iron	1575	\$313,268	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	E of Acorn St
SPRING STREET	6	DI	2200	\$437,580	Undersized	Pressure and flow improvement	3	2010 WSMP	S of Main St
SPRING STREET	6	DI	400	\$79,560	Undersized	Pressure and flow improvement	3	2010 WSMP	N of Main St
UNION STREET	6	Unlined	2585	\$514,157	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	From Ridge St to Exchange St
UNKNOWN	6	Unknown	335	\$66,632	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	Off of Daniels of Irving St
UNKNOWN	6	Unknown	560	\$111,384	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	Segment Off Main St W of Adams
UNKNOWN	6	Suspected Unlined	225	\$44,753	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	Intersection w. Pleasant and Main
UNKNOWN	6	Unknown	275	\$54,698	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	Off of Pleasant St
UNKNOWN	6	Unknown	255	\$50,720	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	Off of Pleasant St
UNKNOWN	6	Unknown	190	\$37,791	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	Off of Spring St
UNKNOWN	6	Suspected Unlined	125	\$24,863	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	Intersection w. Pleasant and Main
UNKNOWN	6	Suspected Unlined	125	\$24,863	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	Intersection w. Pleasant and Main
UNKNOWN	6	Iron	300	\$59,670	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	Off of Orchard St N of Exchange St
VANKLEECK ROAD	6	Suspected Unlined	1025	\$203,873	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	E of Exchange St
WAINWRIGHT CIRCLE	6	Unknown	60	\$11,934	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	
WALNUT STREET	3	Copper	200	\$39,780	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	Near tank
WATER STREET	6	Iron	200	\$39,858	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	
WINTER STREET	6	Iron	525	\$104,423	Unlined/Undersized	Water quality, pressure and flow improvement	2	2010 WSMP	
WOODLAWN DRIVE	6	DI	850	\$169,065	Undersized	Pressure and flow improvement	3	2010 WSMP	

**Estimated Total Cost for water main improvements \$30,600,000
Estimated Average Annual Cost for water main improvement \$1,530,000**

Table 7
Town of Millis - Water System Capital Improvement Plan
Existing Water Debt Service

Fiscal Year	Existing Water Debt Service
2007	\$395,652
2008	\$400,849
2009	\$367,110
2010	\$366,286
2011	\$319,767
2102	\$279,115
2013	\$255,467
2014	\$218,807
2015	\$182,287
2016	\$177,198
2017	\$171,937
2018	\$155,901
2019	\$150,777
2020	\$144,470
2021	\$133,307
2022	\$106,376
2023	\$101,888
2024	\$97,316
2025	
2026	
2027	
2028	
2029	
2030	
2031	
2032	

Table 8
Town of Millis - Water System Capital Improvement Plan
Bonding Debt Service - Potential Future with New Capital Projects

Fiscal Year	Existing Water Debt Service	Funds Available for Future Projects	New Generators and Chemical Feed	Rehab Storage Tanks	Well and WTP Upgrades	Booster Pump Station	Water Meters	Anticipated Water DS
2007	\$395,652							\$395,652
2008	\$400,849							\$400,849
2009	\$367,110							\$367,110
2010	\$366,286							\$366,286
2011	\$319,767							\$319,767
2012	\$279,115							\$279,115
2013	\$255,467	\$140,185	\$25,000					\$280,467
2014	\$218,807	\$176,845	\$25,000		\$45,000			\$288,807
2015	\$182,287	\$213,365	\$25,000	\$50,000	\$45,000	\$30,000		\$332,287
2016	\$177,198	\$218,454	\$25,000	\$50,000	\$45,000	\$30,000		\$327,198
2017	\$171,937	\$223,715	\$25,000	\$50,000	\$45,000	\$30,000		\$321,937
2018	\$155,901	\$239,751	\$25,000	\$50,000	\$108,000	\$30,000		\$368,901
2019	\$150,777	\$244,875	\$25,000	\$50,000	\$108,000	\$30,000		\$363,777
2020	\$144,470	\$251,182	\$25,000	\$100,000	\$108,000	\$30,000	\$87,000	\$494,470
2021	\$133,307	\$262,345	\$25,000	\$100,000	\$108,000	\$30,000	\$87,000	\$483,307
2022	\$106,376	\$289,276	\$25,000	\$100,000	\$121,000	\$30,000	\$87,000	\$469,376
2023	\$101,888	\$293,764		\$100,000	\$121,000	\$30,000	\$87,000	\$439,888
2024	\$97,316	\$298,336		\$100,000	\$76,000	\$30,000	\$87,000	\$390,316
2025		\$395,652		\$50,000	\$76,000		\$87,000	\$213,000
2026		\$395,652		\$50,000	\$76,000		\$87,000	\$213,000
2027		\$395,652		\$50,000	\$76,000		\$87,000	\$213,000
2028		\$395,652		\$50,000	\$76,000		\$87,000	\$213,000
2029		\$395,652		\$50,000	\$76,000		\$87,000	\$213,000
2030		\$395,652		\$50,000	\$76,000		\$87,000	\$213,000
2031		\$395,652		\$50,000	\$76,000		\$87,000	\$213,000
2032		\$395,652		\$50,000	\$76,000		\$87,000	\$213,000

Table 9
Town of Millis - Water System Capital Improvement Plan
Bonding Debt Service - Potential Future with New Capital Projects and Delay

Fiscal Year	Existing Water Debt Service	Funds Available for Future Projects	New Generators and Chemical Feed	Rehab Storage Tanks	Well and WTP Upgrades	Booster Pump Station	Water Meters	Anticipated Water DS
2007	\$395,652							\$395,652
2008	\$400,849							\$400,849
2009	\$367,110							\$367,110
2010	\$366,286							\$366,286
2011	\$319,767							\$319,767
2012	\$279,115							\$279,115
2013	\$255,467	\$140,185	\$25,000					\$280,467
2014	\$218,807	\$176,845	\$25,000		\$45,000			\$288,807
2015	\$182,287	\$213,365	\$25,000	\$50,000	\$45,000	\$30,000		\$332,287
2016	\$177,198	\$218,454	\$25,000	\$50,000	\$45,000	\$30,000		\$327,198
2017	\$171,937	\$223,715	\$25,000	\$50,000	\$45,000	\$30,000		\$321,937
2018	\$155,901	\$239,751	\$25,000	\$50,000	\$108,000	\$30,000		\$368,901
2019	\$150,777	\$244,875	\$25,000	\$50,000	\$108,000	\$30,000		\$363,777
2020	\$144,470	\$251,182	\$25,000	\$100,000	\$108,000	\$30,000		\$407,470
2021	\$133,307	\$262,345	\$25,000	\$100,000	\$108,000	\$30,000		\$396,307
2022	\$106,376	\$289,276	\$25,000	\$100,000	\$121,000	\$30,000		\$382,376
2023	\$101,888	\$293,764		\$100,000	\$121,000	\$30,000		\$352,888
2024	\$97,316	\$298,336		\$100,000	\$76,000	\$30,000	\$87,000	\$390,316
2025		\$395,652		\$50,000	\$76,000		\$87,000	\$213,000
2026		\$395,652		\$50,000	\$76,000		\$87,000	\$213,000
2027		\$395,652		\$50,000	\$76,000		\$87,000	\$213,000
2028		\$395,652		\$50,000	\$76,000		\$87,000	\$213,000
2029		\$395,652		\$50,000	\$76,000		\$87,000	\$213,000
2030		\$395,652		\$50,000	\$76,000		\$87,000	\$213,000
2031		\$395,652		\$50,000	\$76,000		\$87,000	\$213,000
2032		\$395,652		\$50,000	\$76,000		\$87,000	\$213,000

Table 10
Town of Millis - Water System Capital Improvement Plan
Bonding Debt Service and Line Item Budgeting - Potential Future with New Capital Projects Including Water Mains

Fiscal Year	Existing Water Debt Service	Funds Available for Future Projects	New Generators and Chemical Feed	Rehab Storage Tanks	Well and WTP Upgrades	Booster Pump Station	Water Meters	Funds Available for Water Main Replacements
2007	\$395,652							\$5,197
2008	\$400,849							
2009	\$367,110							\$33,739
2010	\$366,286							\$34,563
2011	\$319,767							\$81,082
2012	\$279,115							\$121,734
2013	\$255,467	\$140,185	\$25,000					\$120,382
2014	\$218,807	\$176,845	\$25,000		\$45,000			\$112,042
2015	\$182,287	\$213,365	\$25,000	\$50,000	\$45,000	\$30,000		\$68,562
2016	\$177,198	\$218,454	\$25,000	\$50,000	\$45,000	\$30,000		\$73,651
2017	\$171,937	\$223,715	\$25,000	\$50,000	\$45,000	\$30,000		\$78,912
2018	\$155,901	\$239,751	\$25,000	\$50,000	\$108,000	\$30,000		\$31,948
2019	\$150,777	\$244,875	\$25,000	\$50,000	\$108,000	\$30,000		\$37,072
2020	\$144,470	\$251,182	\$25,000	\$100,000	\$108,000	\$30,000		
2021	\$133,307	\$262,345	\$25,000	\$100,000	\$108,000	\$30,000		\$4,542
2022	\$106,376	\$289,276	\$25,000	\$100,000	\$121,000	\$30,000		\$18,473
2023	\$101,888	\$293,764		\$100,000	\$121,000	\$30,000		\$47,961
2024	\$97,316	\$298,336		\$100,000	\$76,000	\$30,000	\$87,000	\$10,533
2025		\$395,652		\$50,000	\$76,000		\$87,000	\$187,849
2026		\$395,652		\$50,000	\$76,000		\$87,000	\$187,849
2027		\$395,652		\$50,000	\$76,000		\$87,000	\$187,849
2028		\$395,652		\$50,000	\$76,000		\$87,000	\$187,849
2029		\$395,652		\$50,000	\$76,000		\$87,000	\$187,849
2030		\$395,652		\$50,000	\$76,000		\$87,000	\$187,849
2031		\$395,652		\$50,000	\$76,000		\$87,000	\$187,849
2032		\$395,652		\$50,000	\$76,000		\$87,000	\$187,849

FIGURES

Figure 1
Existing Water Debt Service

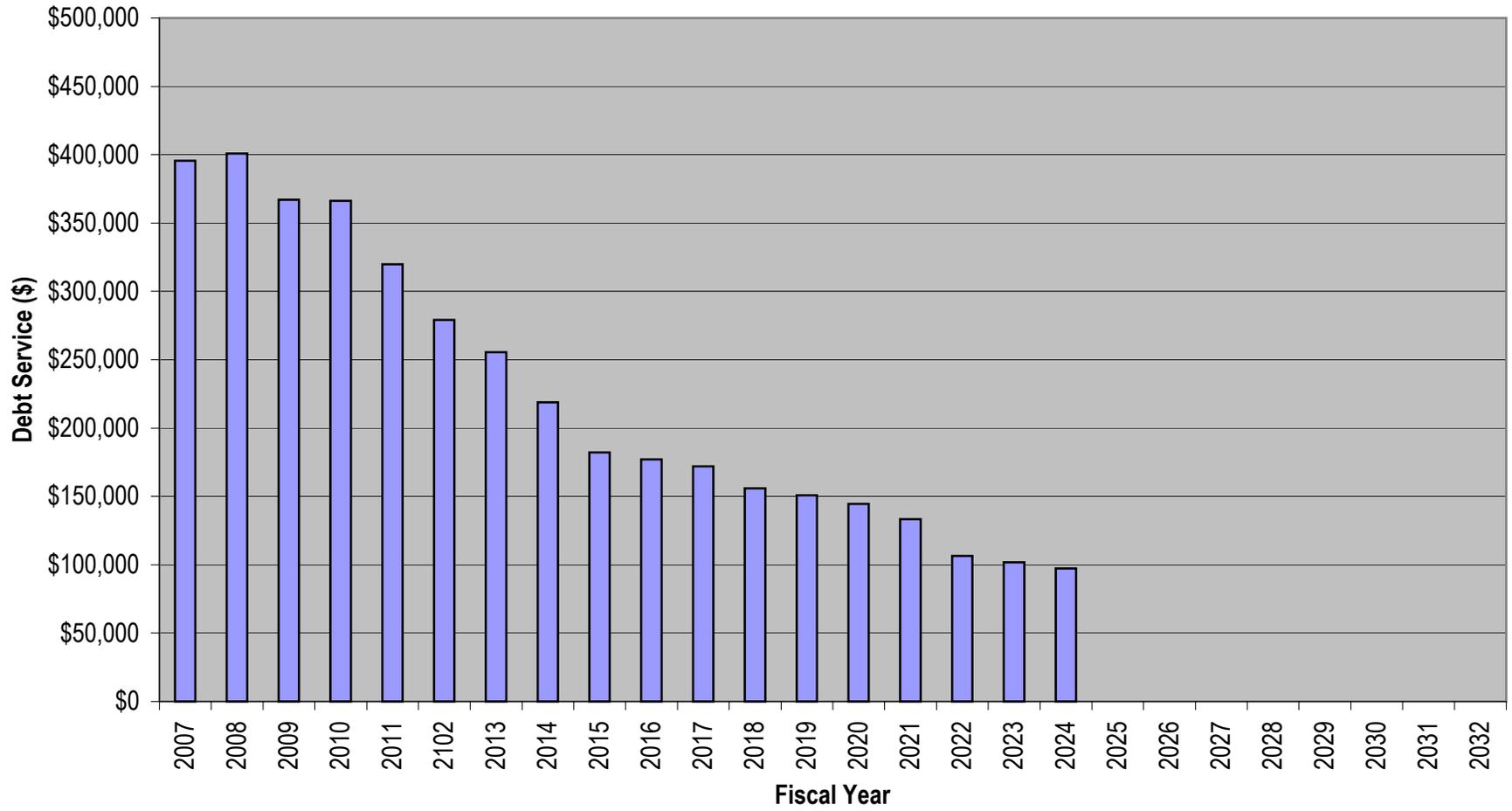
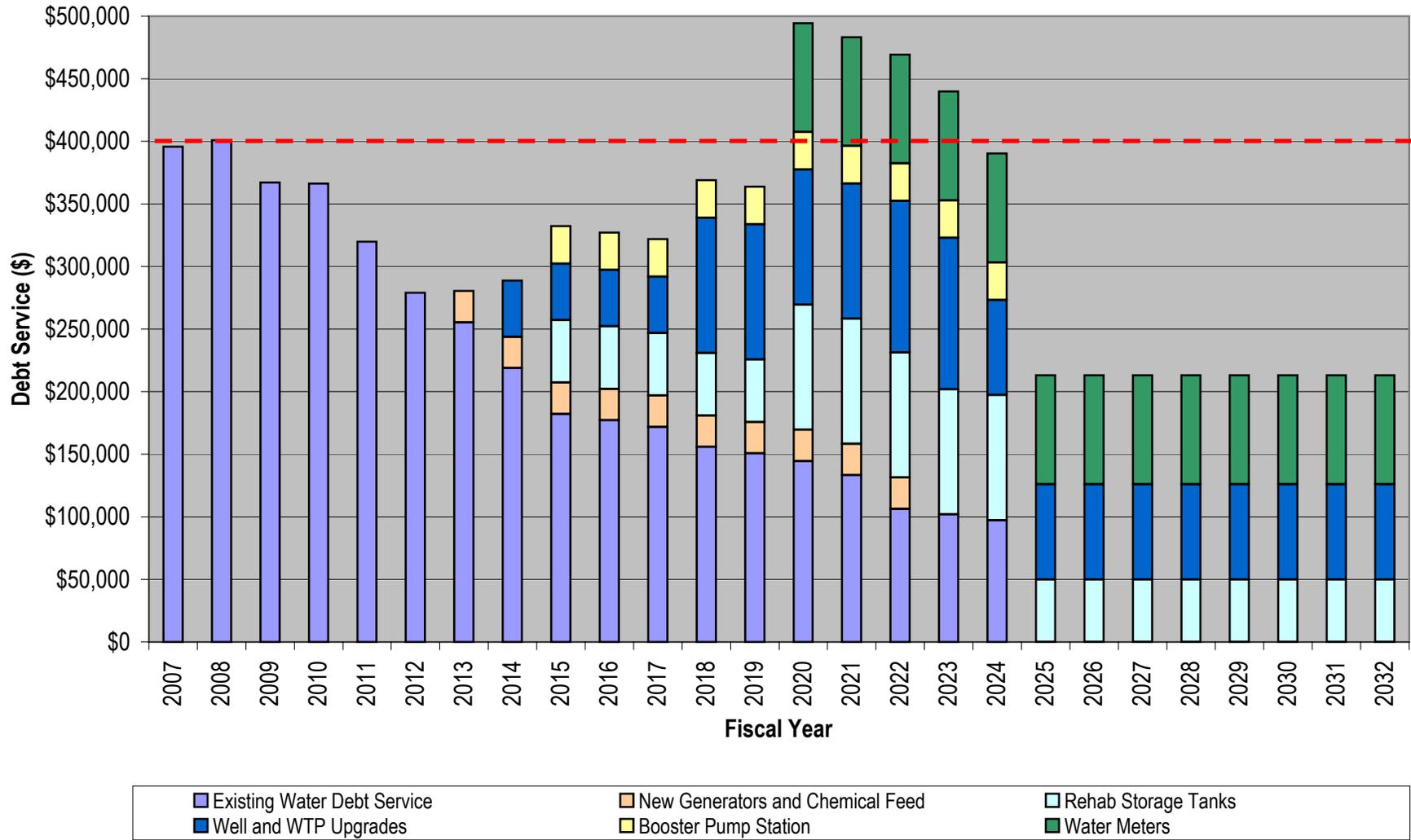


Figure 2
Water Debt Service
With Capital Improvement Projects



**Figure 3
Water Debt Service
With Capital Improvement Projects and Delay**

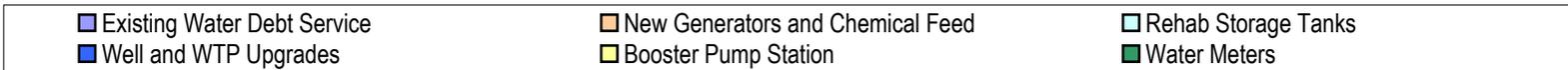
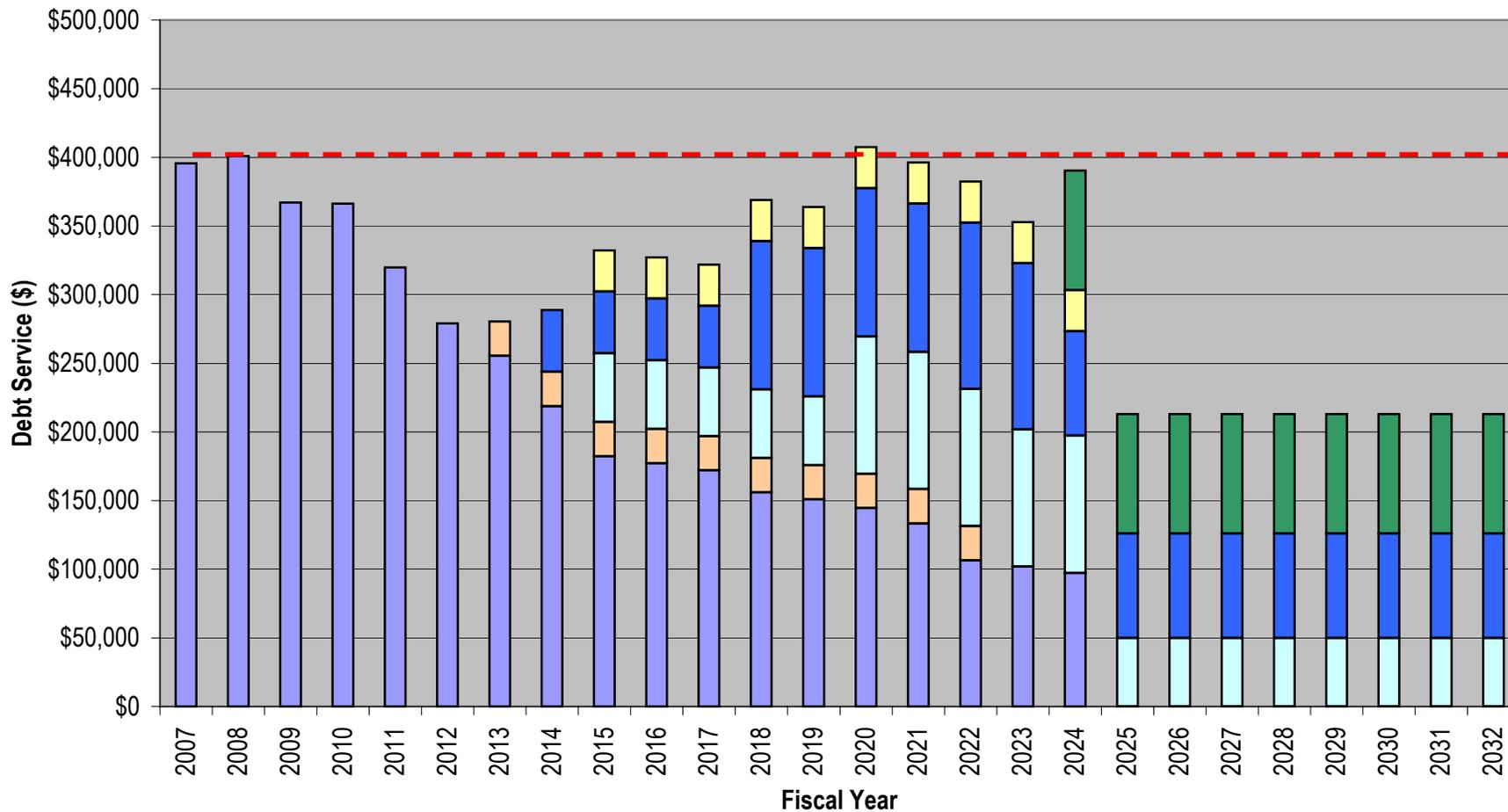
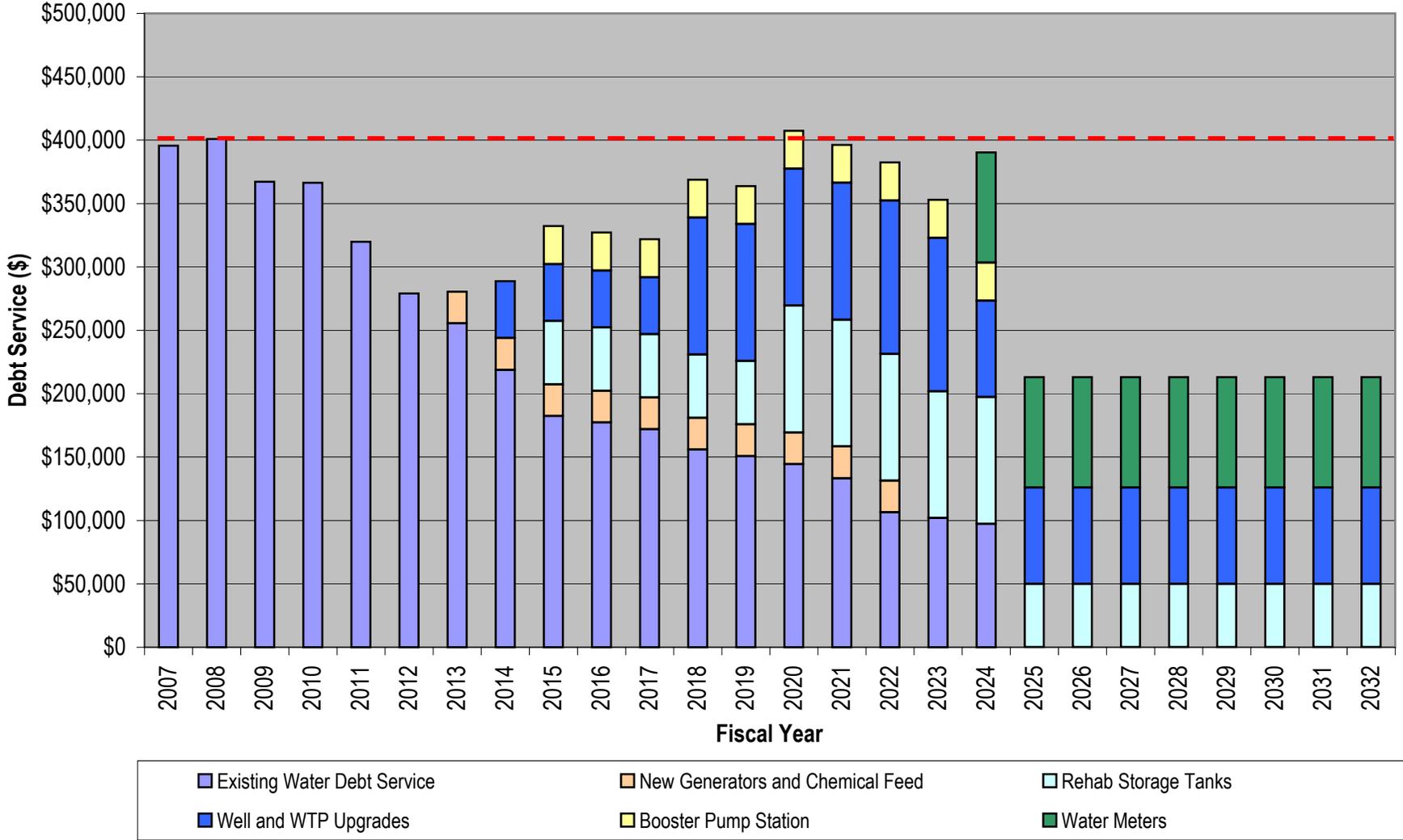


Figure 4
Water Debt Service and Line Item Budgeting
With Capital Improvement Projects and Water Mains



ATTACHMENT 1



Town of Millis Water System Capital Improvement Plan Grant

June 6, 2011

COMMITMENT & INTEGRITY DRIVE RESULTS

Capital Improvement Plan Program MassDEP Grant

- Purpose of Program:
Assist public water systems in outlining needed short- and long-term capital improvements over a 20-year time horizon



Capital Improvement Plan Program MassDEP Grant

- Primary Goals of Program:
 - Improve on the efficiency of delivery of drinking water
 - Establish an inventory of water mains
 - Assess needs of the water system over 20 yr period
 - Prioritize needs in a Capital Improvement Plan
 - Develop an accurate assessment of funding to implement capital improvement needs - over a 20-year time horizon
 - Introduce concept of an annual investment for capital improvements



Recommended Capital Improvements

- Treatment Facilities and Well Pump Stations
- Storage Tanks
- Booster Pumping Systems
- Water Mains
- Water Meters



Well No. 3



Recommended Capital Improvements

- Need for the project
- Estimate of probable cost
- Year of implementation



Recommended Capital Improvements Treatment Facilities and Pumping Stations

PROJECT NAME	SOURCE NAME	AGE Yrs.	Spw. Relativ. Repair/Replace Expend	Type of Need	Year Needed	Cost Estimate	Documentation (If from Available Info)
Wells 1, 2, 3 & 4 Upgrades for Ground Water Risk	Wells 1, 2, 3 & 4	13-50	Repl	New generator & upgrade distribution systems	2012	\$250,000	Water System Master Plan
Wells 1 & 2 Building Upgrades	Wells 1 & 2	39	Repl	Rehab building and building systems	2014	\$100,000	Facilities Evaluation 5/11
Well 3 Equipment Upgrades	Well 3	30	Repl	Rehab well and pump	2014	\$50,000	Water System Master Plan
Well 4 Well System Upgrades	Well 4	39	Repl	Rehab well and pump	2014	\$50,000	Water System Master Plan
Well 4 Equipment Upgrades	Well 4	39	Repl	New generator & upgrade distribution systems	2014	\$100,000	Water System Master Plan
Well 4 Building Upgrades	Well 4	39	Repl	Rehab building & building systems	2014	\$100,000	Facilities Evaluation 5/11
Wells 1 & 2 Well System Upgrades	Wells 1 & 2	39	Repl	Rehab wells and pumps	2018	\$40,000	Facilities Evaluation 5/11
Algebraic WTP Upgrades	Wells 1 & 2, 21 Aquifer WTP	13	Repl	Rehab building and equipment	2018	\$200,000	Facilities Evaluation 5/11
Well 3 Building Upgrades	Well 3	30	Repl	Rehab building & building systems	2018	\$100,000	Facilities Evaluation 5/11
Trane WTP Upgrades	Wells 1 & 2	11	Repl	Rehab building & equipment	2018	\$200,000	Facilities Evaluation 5/11
Wells 5 & 6 Well System Upgrades	Wells 5 & 6	9	Repl	Rehab wells and pumps	2022	\$80,000	Facilities Evaluation 5/11
Wells 5 & 6 Building Upgrades	Wells 5 & 6	9	Repl	Rehab building & building systems	2022	\$50,000	Facilities Evaluation 5/11



Recommended Capital Improvements Storage Tanks

PROJECT NAME	AGE Yrs	Rehab - Replace - Expand	Type of Need	Year Needed	Cost Estimate	Documentation (From Available Info)
Farm Street Tank - Repair / Rehab	75	Reh	Repair and rehabilitation of tank	2015	\$500,000	Water System Master Plan (2010)
Walnut Hill Tank - Repair / Rehab	45	Reh	Repair and rehabilitation of tank	2020	\$500,000	Water System Master Plan (2010)
Farm Street Tank - Repair / Rehab	75	Reh	Repair and rehabilitation of tank	2030	\$500,000	Water System Master Plan (2010)

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Recommended Capital Improvements Booster Pumping Systems

PROJECT NAME	STATION NAME	Year Built	Rehab - Replace - Expand	Type of Need	Year Needed	Cost Estimate	Documentation (From Available Info)
New pumping station and expanded high service area	Walnut Hill	1993	R/E	Improve system pressure and improve reliability	2015	\$300,000	Water System Master Plan (2010)

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Recommended Capital Improvements Water Main Improvements

Water	Year	Station	Length	Material	Type of Need	Reason for Need	Priority	Documentation	Comments
Water	2015
Water	2016
Water	2017
Water	2018
Water	2019
Water	2020
Water	2021
Water	2022
Water	2023
Water	2024
Water	2025
Water	2026
Water	2027
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Water	2131
Water	2132

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Recommended Capital Improvements Other - Water Meters

PROJECT NAME	Year Installed	New - Rehab - Replace - Expand	Type of Need	Year Needed	Cost Estimate	Documentation Type (From Available Info)
Water Meter Replacement	2005	R	Upgrade meters and meter reading system	2020	\$1,300,000	From Town DPW

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Budgeting for Capital Improvements

- Line Item Budgeting
- Bonding (debt service)
- Combination of Both
- Impacts on water rates



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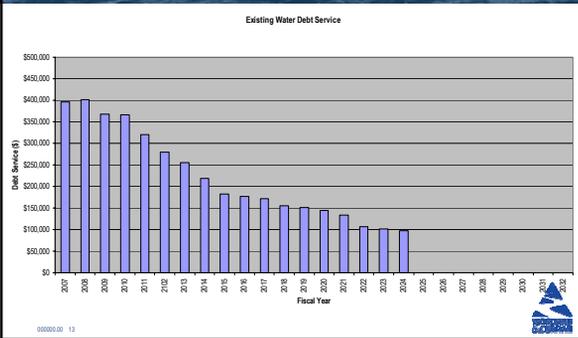
Bonding Debt Service – Current

Fiscal Year	Existing Water Debt Service
2007	\$56,652
2008	\$40,840
2009	\$37,110
2010	\$36,206
2011	\$316,787
2102	\$279,115
2013	\$255,487
2014	\$218,807
2015	\$182,287
2016	\$171,158
2017	\$171,937
2018	\$155,901
2019	\$150,777
2020	\$144,470
2021	\$133,307
2022	\$126,376
2023	\$121,868
2024	\$97,316
2025	
2026	
2027	
2028	
2029	
2030	
2031	
2032	

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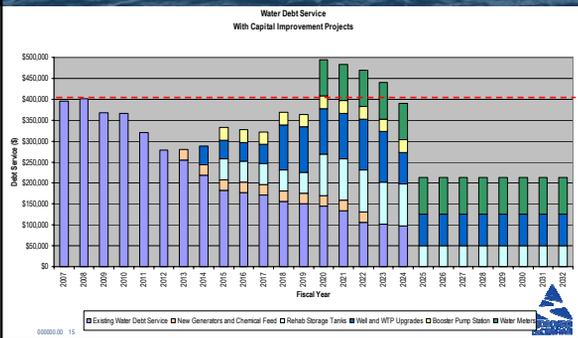
Bonding Debt Service – Current



Bonding Debt Service – Potential Future with New Capital Projects

Fiscal Year	Existing Water Debt Service	Funds Available for Future Projects	New Generators and Chemical Feed	Rehab Storage Tanks	Well and WTP Upgrades	Booster Pump Station	Water Meters	Anticipated Water DS
2007	\$380,000							\$380,000
2008	\$400,000							\$400,000
2009	\$367,110							\$367,110
2010	\$356,286							\$356,286
2011	\$319,767							\$319,767
2012	\$279,115							\$279,115
2013	\$250,487	\$141,185	\$25,000					\$250,487
2014	\$218,807	\$176,845	\$25,000		\$45,000			\$218,807
2015	\$192,287	\$213,365	\$25,000	\$50,000	\$45,000	\$30,000		\$192,287
2016	\$177,198	\$248,855	\$25,000	\$50,000	\$45,000	\$30,000		\$177,198
2017	\$171,537	\$273,715	\$25,000	\$50,000	\$45,000	\$30,000		\$171,537
2018	\$155,501	\$297,751	\$25,000	\$50,000	\$108,000	\$30,000		\$155,501
2019	\$150,777	\$344,875	\$25,000	\$50,000	\$108,000	\$30,000		\$150,777
2020	\$144,476	\$251,182	\$25,000	\$100,000	\$108,000	\$30,000	\$87,000	\$144,476
2021	\$133,307	\$262,349	\$25,000	\$100,000	\$108,000	\$30,000	\$87,000	\$133,307
2022	\$126,376	\$269,776	\$25,000	\$100,000	\$121,000	\$30,000	\$87,000	\$126,376
2023	\$119,888	\$263,764	\$25,000	\$100,000	\$121,000	\$30,000	\$87,000	\$119,888
2024	\$107,376	\$258,338	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$107,376
2025	\$99,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$99,652
2026	\$92,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$92,652
2027	\$86,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$86,652
2028	\$81,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$81,652
2029	\$77,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$77,652
2030	\$74,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$74,652
2031	\$72,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$72,652
2032	\$71,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$71,652

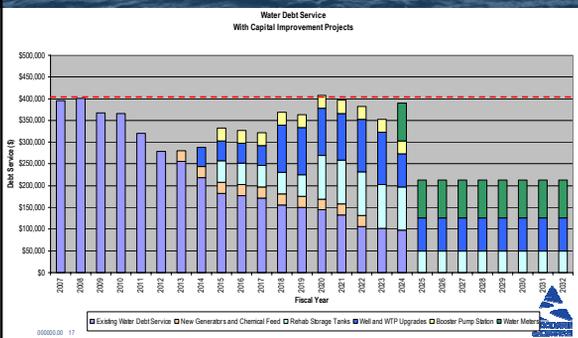
Bonding Debt Service – Potential Future with New Capital Projects



Bonding Debt Service – Potential Future with New Capital Projects

Fiscal Year	Existing Water Debt Service	Funds Available for Future Projects	New Generators and Chemical Feed	Rehab Storage Tanks	Well and WTP Upgrades	Booster Pump Station	Water Meters	Anticipated Water DS
2007	\$380,000							\$380,000
2008	\$400,000							\$400,000
2009	\$367,110							\$367,110
2010	\$356,286							\$356,286
2011	\$319,767							\$319,767
2012	\$279,115							\$279,115
2013	\$250,487	\$141,185	\$25,000					\$250,487
2014	\$218,807	\$176,845	\$25,000		\$45,000			\$218,807
2015	\$192,287	\$213,365	\$25,000	\$50,000	\$45,000	\$30,000		\$192,287
2016	\$177,198	\$248,855	\$25,000	\$50,000	\$45,000	\$30,000		\$177,198
2017	\$171,537	\$273,715	\$25,000	\$50,000	\$45,000	\$30,000		\$171,537
2018	\$155,501	\$297,751	\$25,000	\$50,000	\$108,000	\$30,000		\$155,501
2019	\$150,777	\$344,875	\$25,000	\$50,000	\$108,000	\$30,000		\$150,777
2020	\$144,476	\$251,182	\$25,000	\$100,000	\$108,000	\$30,000	\$87,000	\$144,476
2021	\$133,307	\$262,349	\$25,000	\$100,000	\$108,000	\$30,000	\$87,000	\$133,307
2022	\$126,376	\$269,776	\$25,000	\$100,000	\$121,000	\$30,000	\$87,000	\$126,376
2023	\$119,888	\$263,764	\$25,000	\$100,000	\$121,000	\$30,000	\$87,000	\$119,888
2024	\$107,376	\$258,338	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$107,376
2025	\$99,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$99,652
2026	\$92,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$92,652
2027	\$86,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$86,652
2028	\$81,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$81,652
2029	\$77,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$77,652
2030	\$74,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$74,652
2031	\$72,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$72,652
2032	\$71,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$71,652

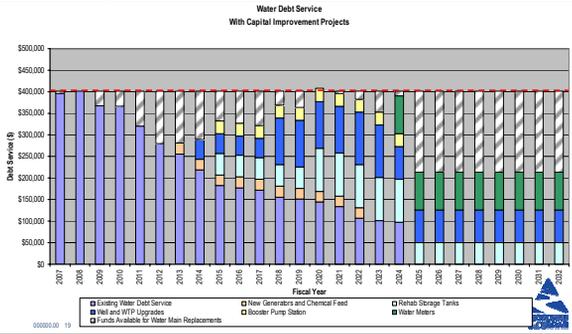
Bonding Debt Service – Potential Future with New Capital Projects



Bonding Debt Service and Line Item Budgeting – Potential Future with New Capital Projects

Fiscal Year	Existing Water Debt Service	Funds Available for Future Projects	New Generators and Chemical Feed	Rehab Storage Tanks	Well and WTP Upgrades	Booster Pump Station	Water Meters	Funds Available for Water Main Replacements	Anticipated Water DS
2007	\$380,000							\$1,187	\$380,000
2008	\$400,000							\$3,739	\$400,000
2009	\$367,110							\$4,563	\$367,110
2010	\$356,286							\$8,962	\$356,286
2011	\$319,767							\$17,748	\$319,767
2012	\$279,115							\$19,292	\$279,115
2013	\$250,487	\$141,185	\$25,000					\$19,292	\$250,487
2014	\$218,807	\$176,845	\$25,000		\$45,000			\$19,292	\$218,807
2015	\$192,287	\$213,365	\$25,000	\$50,000	\$45,000	\$30,000		\$68,962	\$192,287
2016	\$177,198	\$248,855	\$25,000	\$50,000	\$45,000	\$30,000		\$79,512	\$177,198
2017	\$171,537	\$273,715	\$25,000	\$50,000	\$45,000	\$30,000		\$79,512	\$171,537
2018	\$155,501	\$297,751	\$25,000	\$50,000	\$108,000	\$30,000		\$17,868	\$155,501
2019	\$150,777	\$344,875	\$25,000	\$50,000	\$108,000	\$30,000		\$1,567	\$150,777
2020	\$144,476	\$251,182	\$25,000	\$100,000	\$108,000	\$30,000	\$87,000	\$18,275	\$144,476
2021	\$133,307	\$262,349	\$25,000	\$100,000	\$108,000	\$30,000	\$87,000	\$18,275	\$133,307
2022	\$126,376	\$269,776	\$25,000	\$100,000	\$121,000	\$30,000	\$87,000	\$18,275	\$126,376
2023	\$119,888	\$263,764	\$25,000	\$100,000	\$121,000	\$30,000	\$87,000	\$18,275	\$119,888
2024	\$107,376	\$258,338	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$18,275	\$107,376
2025	\$99,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$18,275	\$99,652
2026	\$92,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$18,275	\$92,652
2027	\$86,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$18,275	\$86,652
2028	\$81,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$18,275	\$81,652
2029	\$77,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$18,275	\$77,652
2030	\$74,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$18,275	\$74,652
2031	\$72,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$18,275	\$72,652
2032	\$71,652	\$256,652	\$25,000	\$100,000	\$75,000	\$30,000	\$87,000	\$18,275	\$71,652

Bonding Debt Service and Line Item Budgeting – Potential Future with New Capital Projects



Capital Improvement Plan Program

- MassDEP would like Town to Consider:
 - Adopt line item budgeting and/or bonding for capital projects, including water main replacements
 - Enact annual bond cap to complete projects
 - Develop water rates to provide revenue to fund line item capital projects or fund debt service
 - Accept the components of the Capital Improvement Plan as a dynamic spending plan



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Town of Millis Water System Capital Improvement Plan Grant

Questions?

COMMITMENT & INTEGRITY DRIVE RESULTS

ATTACHMENT 2

**BOARD OF SELECTMEN
REGULAR SESSION MEETING MINUTES
June 20, 2011
Veterans Memorial Building, Room 229
900 Main Street, Millis, MA 02054**

CALL TO ORDER: Chm. Wagner called the meeting to order at 7:30 p.m. The following persons were present: Chairman Andrea Wagner, Clerk Charles Vecchi, Administrative Assistant Jennifer Cederberg and Town Administrator Charles Aspinwall. Vice Chair Donald Hendon was absent.

ANNOUNCEMENTS: Sel. Wagner recognized former Police Chief Al Baima's death. She noted that he was Chief in Millis from 1984-2000. The Board observed a moment of silence in his honor. Sel. Vecchi spoke about his relationship with Mr. Baima and how he will be missed.

Sel. Wagner read a letter from Wayne Simpson of the Cemetery Review Committee recognizing the outstanding work of the DPW in cleaning the cemetery for Memorial Day.

Sel. Vecchi noted that the Washington Post ranked the Town of Millis school system in the top 7% in the country and 31st in the state of Massachusetts. He also recognized the retirement of High School Principal Jeff Wolfe. He also welcomed back Jenn Cederberg and thanked Cathy O'Callaghan and Sue Vara for assistance in her absence.

STORMWATER HEARING: Mr. Aspinwall stated that this item needs to be continued until the 7/11 meeting to allow the Planning Board to first review the plans.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to open the Stormwater Hearing for the Library project and continue it to 7/11/11 at 7:30 p.m. The motion passed unanimously.

WATER SYSTEM CAPITAL PLAN: Mr. Aspinwall noted that this plan needs to be submitted by 6/30 to the DEP which was developed by Woodard & Curran. He reviewed the purpose of the plan which was funded by a grant. He noted that debt service is dropping by about \$400,000 between this year and 2024. He noted that the process for appropriation of funds for improvements would not be different from any other project and pointed out that the DEP has provided the Board with a suggested motion that they may consider.

Motion by Sel. Vecchi, seconded by Sel. Wagner, that the Board of Selectmen have reviewed and discussed the material presented at the June 6, 2011 Selectmen's Meeting on the Town of Millis Water System Capital Improvement Plan, prepared under a grant provided by the Massachusetts Department of Environmental Protection through their Capital Improvement Plan Program. The Selectmen have considered the adoption of line item budgeting and/or debt service payments for the annual capital improvements to the water system. This included consideration of existing bond payments, and impacts to water rates, and the enacting of an annual capital bond cap amount for the annual payment of debt service from water revenues to complete water works capital projects. The components of the Water System Capital Improvement Plan presented on June 6, 2011 have been accepted as a dynamic spending plan and will be used by the Town in planning future capital projects and preparing annual budgets. The motion passed unanimously.

RIDGE STREET CULVERT PROJECT: Mr. Aspinwall reviewed a letter he wrote to the Ridge Street residents and noted that the bids came in higher than the project budget of \$252,000. He stated that the project has been re-bid and the new opening date is 7/11/11. He noted the delay of the project may interfere with school buses.

GIRL SCOUT REQUEST: Michelle Schofield from the Girl Scouts was present and requested that they be permitted to make a time capsule and keep the capsule in the VMB with the Girl Scout items that are on display. The capsule would be on display for 25 years. She noted that it would be small and tasteful and appropriate for the case. Sel. Vecchi suggested that we may want to consider contacting the Rosenfeld family or if the items were to be stored in Room 130, those cases are under the control of the Town.

**BOARD OF SELECTMEN
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Motion by Sel. Vecchi, seconded by Sel. Wagner, to approve the proposal to create a Girl Scout time capsule to be displayed in the Memorial Building with the details to be worked out. The motion passed unanimously.

BID AWARDS:

Motion by Sel. Vecchi, seconded by Sel. Wagner, to award the contract for the Town Hall façade repair to Alpha Contracting Associates of Mulberry Lane in Dedham, MA, in the amount of \$93,000. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to award a paving contract for various streets in Town to Murray Paving and Reclamation in the amount of \$337,517. The motion passed unanimously.

COMMITTEE/BOARD REAPPOINTMENTS:

Motion by Sel. Vecchi, seconded by Sel. Wagner, that we appoint to the Agricultural Commission for a one-year term Diane Hubbard, Charles Tangerini, Laura Tangerini, and as an Associate Member Matthew Surabian. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, that we appoint as Animal Inspector for a one-year term Brenda Hamelin. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, that we appoint to the Board of Assessors for a three-year term Lawrence Bouret. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, that we appoint to the Cable Advisory Committee for a one-year term David Baker, Brian Doherty, Lorraine Forman, Donald Hendon, Carter Koch, Raymond Normandin and Grace Magley. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, that we appoint to the Cemetery Review Committee for a one-year term Lorraine Burnett, Marsha Collins, Deborah Lesburel, Wayne Simpson, Charles Vecchi and as ex-officio members Stephen Main and James McKay. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, that we appoint to the Community Preservation Committee for a two-year term Dave Baker, for a one-year term Jeff Butensky, for a one year term Donald Hendon, Catherine MacInness, Nathan Maltinsky, Carol Mushnick, Pamela Mustard, Raymond Normandin; for a three year term John Northgraves, and for a one-year term Anne Rich. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, that we appoint to the Conservation Commission for three-year terms Loretta Fitzgerald, Cara Krinsky and Christine Gavin. The motion passed unanimously.

Motion by Sel. Vecchi seconded by Sel. Wagner, that we appoint to the Council on Aging for a three-year term Elinor Harkins, Suzan Holmes-Newton, Mary Skilling, Linda Beyer, Sam Howie, Helen Daly and Nancy Prue. The motion passed unanimously.

**BOARD OF SELECTMEN
REGULAR SESSION MEETING MINUTES
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Motion by Sel. Vecchi, seconded by Sel. Wagner, that we appoint to the Drinking Water Committee for a one-year term Charles Aspinwall, Kathleen Lannon, James McKay, Craig Schultze and Charles Vecchi. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the Emergency Management Agency/Co-Directors for a one-year term David Byrne and Herman Downing. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the Emergency Management Agency/Communication for a one-year term Herman Downing, Kenneth Jones, Julius Rosen and Robert Yeager. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the Employee Insurance Advisory Committee for a one-year term Jacqueline Anderson, Jennifer Cederberg, Linda Cousland, Linda Myers, Dorrie Verdy, and Fred Souza. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the Energy Conservation Commission for a one-year term Christopher Gove, Michael Vecchi and David Bushad. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint as Fence Viewer for a one-year term Michael Giampietro. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint as Finance Director/Town Accountant for a one-year term Kathleen LaPlant. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the Financial Management Team for a one-year term Charles Aspinwall, Jeffrey Cannon, Christopher Smith, Christopher Gove, Donald Hendon, Kathleen LaPlant, and Robert Orsi. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint as the Hazardous Waste Coordinator for a one-year term Cheryl Labonte. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the Historical Commission for a three-year term Joanne Gannon, Nathan Maltinsky, Fred Waskiewicz, Ted Andrews, Cheryl Prufer, Jackie Graci and Mark Slayton. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the Historical Commission/Associate Members for a one-year term Linda Morse, Marc Prufer, Charles Vecchi, and Bonnie McBride. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the Insurance Advisory Committee for a one-year term, Christopher Gove, Timothy Kane, Wayne Klocko, and David Schofield. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the Local Emergency Planning Committee for a one-year term Charles Aspinwall, Warren Champagne, Karen D'Angelo, Herman Downing, Vincent Howley, Paul Jacobsen, Kathleen Lannon, James McKay, Scott Moles, Linda Myers, Andrea Wagner and David Byrne. The motion passed unanimously.

**BOARD OF SELECTMEN
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June 20, 2011

**Veterans Memorial Building, Room 229
900 Main Street, Millis, MA 02054**

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the Master Plan Implementation Committee for a one-year term Charles Aspinwall, Michael Giampietro, Elizabeth Krimmell, Craig Schultze, Wayne Simpson, Andrea Wagner, George Yered and Carol Coakley. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the MBTA Advisory Board for a one-year term Charles Aspinwall. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the Metropolitan Area Planning Council for a one-year term Charles Aspinwall. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the Niagra Building Committee for a one-year term Joseph Churchman, Jacqueline Graci, Lisa Hardin, Beth Krimmel, Nathan Maltinsky, Richard Neves, Cheryl Prufer, Marc Prufer, Mark Slayton, Jim Stetson, Charles Vecchi and Fred Waskewicz. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the Norfolk County Advisory Board for a one-year term Charles Vecchi. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint as the Parking Clerk for a one-year term Jennifer Cederberg. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the Permanent Building Committee for a three-year term Craig Schultze, Jonathan Wine, Diane Jurman and Pat Sheehan and as ex-officio members for a one-year term Charles Aspinwall, Warren Champagne, Elizabeth Krimmel and Charles Vecchi. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the Public Employees Committee for a one-year term Jacqueline Anderson, Janet Lewandowski, Linda Myers, Janet Ruggiero, Teri Bedard, Paul Tingley, Dorrie Verdy, Pamela Kilmartin and Jennifer Cederberg. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint as Public Weighers for a one-year term Kenneth Bianco, Maurice Bouchard, Michael Collins, Donald Gilleney, Mark Goodale, William Goodale, Paul Lapierre, Jason Laariviere, Arthur Murphy, Michael Pukanasis, Scott Rorrie, Francis Rossi, John Tresca, Robert Tresca and Steven Tresca. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the Recreation Committee for a one-year term Judy Malouf, Linda DePace, Pamela Mustard, Paula Norton, Joanne Truchon, Susan Vara and Jennifer Cederberg. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the Regional Transportation Advisory Council for a one-year term Domenic D'Eramo. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint as an Alternate to the Regional Transportation Advisory Council for a one-year term Edward Chisholm. The motion passed unanimously.

**BOARD OF SELECTMEN
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Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the Registrars of Voters for a three-year term Marc Conroy, Kathleen O'Callaghan and Rita Murphy. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint as the Right to Know Coordinator for a one-year term Scott Moles. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the Safety Committee for a one-year term David Byrne, Jennifer Cederberg, Warren Champagne, James McKay, Scott Moles, and Tricia Perry. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint as Sealer of Weights and Measures for a one year term Michael Clancy. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the Sewer Study Committee for a one-year term Charles Aspinwall, Joseph Bocchino, Robert Cantoreggi, Edward Chisholm, James McKay, Scott Moles and Charles Vecchi. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the Sidewalk Committee for a one-year term David Baker, Samantha Conroy, Jeffrey Ferzoco, Catherine MacInnes, Mark Messias, Pamela Mustard, John Northgraves, Craig Schultze and Charles Vecchi. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the Southwest Area Planning Council for a one-year term Charles Aspinwall. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint as Surveyor of Wood and Lumber for a one-year term Michael Giampietro. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint as Town Counsel for a one-year term Kopelman & Paige. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint as Tree Warden for a one-year term Brutus Cantoreggi. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint as Deputy Tree Warden for a one-year term Richard Vatur. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint as Veterans Agent for a one-year term John Wypyszinski. The motion passed unanimously.

Motion by Sel. Vecchi, seconded by Sel. Wagner, to appoint to the Youth Commission for a three-year term Lisa Wypyszinski and as Associates for a one-year term Elinor Harkins, Thomas Quinn, Christopher Soffayer, and Andrea Wagner. The motion passed unanimously.

INTER-FUNCTION TRANSFERS:

Motion by Sel. Vecchi, seconded by Sel. Wagner, to approve an Inter-Function Transfers in the amounts of \$4,308.61 in General Government and \$2,344.88 in the Public Safety line item for a total of \$6,653.49. The motion passed unanimously.

**BOARD OF SELECTMEN
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Veterans Memorial Building, Room 229
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POLICE CHIEF RECRUITMENT: Mr. Aspinwall reviewed his research on how best to recruit for the next Police Chief for the Town of Millis and what qualities the Town is looking for. He noted he spoke with recruitment consultants and suggested an open recruitment process including an Assessment Center which uses simulations of real duties and real time observed performance. He stated that a Search Committee could be formed to observe the candidates go through the Assessment Center process. He noted concerns for making sure the process remains in compliance with the Open Meeting Law. He noted that it will cost approximately \$7,000-\$12,000 to use an Assessment Center which would come out of existing budgets. He recommended the Search Committee be comprised of a long-term citizen in town, a former town official, a member of the Finance Committee, the Chair of the Board of Selectmen and a member of the School Committee. He noted the final candidate would be brought to the Board of Selectmen for an interview. He stated that he is aiming for a 90-day recruitment to have a new Police Chief in place.

Motion that we establish a Police Chief Search Committee that would be comprised of the Chairman of the Board of Selectmen, a member of the School Committee, a member of the Finance Committee, a long-term resident of the Town and a former Town official. The motion passed unanimously.

ONE-DAY ENTERTAINMENT PERMIT:

Motion to grant a one-day entertainment permit to Laura DeSouza at 10 Oakview Avenue on July 9th from 5-11 for a party with a guitar and possibly an amp. The motion passed unanimously.

MEETING MINUTES:

Motion by Sel. Vecchi, seconded by Sel. Wagner, to approve the Regular and Executive Session meeting minutes of 6/6/11. The motion passed unanimously.

EXECUTIVE SESSION: At 8:48 p.m., by Roll Call Vote;

Motion to enter into executive session to discuss strategy with respect to collective bargaining or litigation if an open meeting may have a detrimental effect on the government's bargaining or litigating position. Also, to conduct strategy sessions in preparation for negotiations with non-union personnel; to actually conduct collective bargaining and contract negotiations. Wagner – aye; Vecchi – aye.

Respectfully Submitted,

Jennifer G. Cederberg, Administrative Assistant