Sewer Commissioners
Minutes of Tuesday, March 23, 2021
Zoom Remote – Public Access

TA Tony Schiavi
ATA Glenn Cannon

Sewer Commissioners
James Potter, Chairman
Jared MacDonald, Vice Chair
Judy Froman, Clerk
Peter Meier
George Slade

Others: Helen Gordon, Kathleen Thut, Mark White, Kate Roosa, Brenna Attanasio, Erica Flemming, Maria Oliva, Mike Rausch, Mary Jane Mastrangelo, Tim Lydon, Neil Langile, Catherine Walton, Fred, Jimmy

Note this Zoom videoconference meeting is being televised, streamed or recorded by Bourne TV. If anyone from the public wishes to provide public comment, they can access the Zoom meeting by calling: 1-929-205-6099, Meeting ID: 842 7844 0831 Password: 895191. If you already have the Zoom App downloaded to your device or computer, you may simply join the meeting by entering the Meeting ID and Password noted above, or go to https://zoom.us/meetings and look for the Join Meeting button.

Participants wishing to speak should click the "Reactions" icon on the lower toolbar and then click "Raise Hand" in the dialog box to notify the Chair. The Chair will recognize participants. The 'Chat' keyboard feature will not be utilized for discussion or recognition during this meeting. For Participants who are calling into the meeting and wishing to speak should press *9 to notify the Chair. The Chair will recognize participants.
Please MUTE your phone/microphone upon entry.

All items within the meeting agenda are subject to deliberation and vote(s) by the Board of Sewer Commissioners.

Documents: Bourne Sewer Rate Evaluation, Sewer Rate and Capacity Management Evaluation, Draft Sewer Policy Regulations

Meeting Called to Order
Chm. Potter called the meeting to order at 7:01 pm.

1) Salute to the Flag

2) Consent Agenda
A. Approval of Open Session meeting minutes: 01.26.2021, 2.23.2021
B. Correspondence

Voted: Judy Froman moved and seconded by Peter Meier to approve the minutes of January 26, 2021.
Roll Call Vote: Jared MacDonald - Yes, Judy Froman - Yes, George Slade - Abstained, Peter Meier – Yes, James Potter - Yes
Vote: 4-0-1.

Voted: Judy Froman moved and seconded by Jared MacDonald to approve the minutes from February 23, 2021 with one edit, correct Rep Zaros name.
Roll Call Vote: Jared MacDonald - Yes, Judy Froman - Yes, George Slade - Abstained, Peter Meier – Yes, James Potter - Yes
Vote: 4-0-1.

2.B Correspondents

Judy Froman brought the committee and the public up to date on the correspondence.

Letter from Gray Gables Association Board of Directors Kathy Fox Alfano & Beth Russell – Co Presidents, and Holly Mohre – Clerk regarding the outfall pipe into the Cape Cod Canal

3) <u>Sewer Allocation</u>
A. Oak Bay Brewery (140 Main Street, Buzzards Bay) — Discussion and possible vote to revoke the sewer allocation for the Oak Bay Brewery project

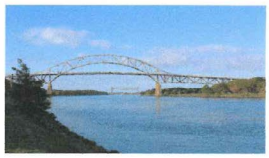
James Potter said this applicant was given allocation but didn't proceed with the project. We tried to reach the applicant three times and were unsuccessful. We had given them 3 months to come back to the Board with an update. Town staff indicated they are not interested in the allocation that was allocated to them for that address. We can revert the allocation back to the town's total allocation.

Peter Meier questioned since the applicant and property owner are two different people, what if the property owner decides they want the allocation. Does the property owner have rights to the allocation or is it specifical for the applicant? Tony Schiavi said it is for the applicant; the package application was for the applicant under the applicant's business name.

TOWN OF BOURNE

Town Administrator

24 Perry Avenue – Room 101
Buzzards Bay, MA 02532
www.townofbourne.com
508.759.0600, Ext. 1308



Anthony Schiavi, Town Administrator
Email: aschiavi@townofbourne.com

January 5, 2021

Subject: Oak Bay Brewery
140 Main Street
Buzzards Bay, MA 02532

To: Mr. Brian Poulin
[redacted]

Dear Mr. Poulin,

Recently, the Bourne Board of Sewer Commissioners conducted a Sewer Allocation review which includes updates on projects granted a sewer allocation (see Town of Bourne, Board of Sewer Commissioners, Commercial Wastewater Management Allocation, Section III, Subsection D).

Our records indicate that Oak Bay Brewery was granted a sewer allocation of 2,256 gallons per day (gpd) on December 18, 2019. The Board of Sewer Commissioner continues to hold this sewer allocation for your business. However the Commercial Wastewater Management Allocation Policy, Section III, Subsection D states "The Board retains the right to revoke the Preliminary Allocation if the Applicant cannot demonstrate progress, although the Board may allow for the continuation or extension of a Preliminary Allocation in the case of delays not under the control of the Applicant."

The Board of Sewer Commissioner is requesting that you update the Board relative your intent to develop 140 Main Street in Buzzards Bay. The Board of Sewer Commissioners granted a ninety (90) days extension on December 22, 2020 (expires on March 22, 2020) for an update. Should you fail to provide an update, the Board may consider revoking your allocation.

Please reach out to the Town Staff at (508) 759 – 0600 ex. 1307 to inquire about the next scheduled Board of Sewer Commissioners meeting.

Respectfully,

Anthony Schiavi
Town Administrator
cc: File

Voted: Judy Froman moved and seconded by Jared MacDonald to revoke the 2,256 gallons per day Preliminary Allocation previously granted to the Oak Bay Brewery at 140 Main Street.
Roll Call Vote: Jared MacDonald - Yes, Judy Froman - Yes, George Slade - Yes, Peter Meier – Yes, James Potter - Yes
Vote: 5-0-0.

4) <u>Sewer Business</u>
A. DRAFT Plan of Study discussion and possible vote
B. Upper Bay Project discussion
i. Wareham Sewer Department Directional Drilling Study discussion
C. FY 22 Sewer Budget adjustment discussion and possible vote
D. Equivalent Resident Unit (ERU) System Development Charge discussion and possible vote
E. Sewer Policy and Regulations (Section 1 and Section 2 Adoption; Section 3 thru 9 and Appendix – 3rd Reading)
F. Cape Cod and Islands Water Protection Funding Allotment/Reimbursement discussion
G. Joint Base Cape Cod (Converge) update

4. A. DRAFT Plan of Study discussion and possible vote

Helen Gordon, Environmental Partners, Mark White
Helen Gordon gave an update

- We had a pre submission call with Mass DEP, they gave us some recommendations about a few changes to the draft before submitting for review
- Went over the draft with staff
- Mass DEP suggested to make sure everything is focused on watershed basis
- There are no major changes associated with the approach and how we will conduct the project
- Mass DEP asked us to look at if we can consolidate the timeline associated with the approach and scope, we are taking a look at that

Mark White went over the outline approach for the single EIR
Mr. White said James Potter questioned if they could combine the draft with the final EIR
The approach we are doing with MEPA is

- 1st step Environmental Notification Form (overview of the project)
- 2nd step Expanded ENF

The result of that would be the request that we could perform a single EIR. That could accelerate the timelines with the MEPA review process.
We will also be talking with the Cape Cod Commission – so the MEPA review process dovetails and occurs simultaneously with the DRI process with the Commission.
The timeline is a reflection of the comments that are received from the public and regulators.
The more complete we can be with the expanded ENF the greater the likelihood we can compress the schedule.

Mary Jane Mastrangelo questioned the kickoff meeting with the Wastewater Advisory Committee, what is the status of creating/recreating the advisory committee that will work with Environmental Partners on this process.

James Potter said we are reviewing how we will put that committee together. That committee is more of an advisory committee. Would like to have representation from different areas of town. We will work with staff to get this committee started. There will be numerous public hearings.

Mary Jane Mastrangelo said public hearings are different than having public input. Stakeholder community input should be included in the discussions. Tony Schiavi said a public outreach plan will be established. Helen Gordon said in their scope of work they have an approach for public participation, which includes a number of workshops.

James Potter said part of the proposal is that Environmental Partners will meet with the Sewer Commissioners quarterly for updates, another opportunity for the public to engage.

> **Voted:** Judy Froman moved and seconded by Jared MacDonald to approve the Plan of Study as presented by Environmental Partners.

Peter Meier stated because the agenda wasn't specific enough, don't feel comfortable voting on this item tonight. Tony Schiavi said the Plan of Study letter was not included on the public meeting posting.

Judy Froman withdrew her motion.

James Potter said we won't take action on it tonight; we will move it to the next meeting and make sure the information is posted so people can see it.

4.B. Upper Bay Project discussion

i. Wareham Sewer Department Directional Drilling Study discussion

James Potter said the Buzzards Bay Coalition put together a meeting with stakeholders from Bourne, Wareham, and Mass Maritime to make sure everyone is in agreement on where the Buzzards Bay Coalition is in their study. They said they would like to come back again for the educational component and a financial component of their study. Part of the discussion was that Wareham has undertaken a study for direction drilling for their outfall pipe. This is a good opportunity to let the public know more about that project. Want to clarify that Wareham cannot directional drill to MMA to use the outfall pipe without any permit process where Bourne would have a say. Buzzards Bay Coalition will be monitoring additional areas in Gray Gables

Glenn Cannon will find out when they are going to have that item on their agenda.

4.C. FY 22 Sewer Budget adjustment discussion and possible vote

James Potter said we do have some budget adjustment that will help with the rate. Tony Schiavi gave an update on the budget, and the changes they are proposing.

We decommissioned Savary Ave. Wrote a letter to the Army Corp around September 23rd confirming we are ready to decommission the system. We gave a proposal of what we thought would be the most advantageous way to do that. We haven't heard back from them yet. When we presented the budget to the Select Board, we had funding in the budget for the decommissioning.

We are also in the process of reconstructing the Wastewater Treatment Plant. In February we got confirmation that the loan will close in October, so we were able to make adjustments in our long-term debt services for principal and interest that will help reduce the size of the sewer budget.

Reduction in the Sewer Budget – has an impact on the sewer rates.
Tony Schiavi also went over the proposed Sources & Uses for the Enterprise Fund. Still using retained earnings.

TOWN OF BOURNE

Expenditure Budget Report

2022 Town Budget

4C

Account	Description	2020 App	2020 Exp	2021 App	2021 Exp	Town Admin. Rec.	$ Change	% Change
	442 - SEWERAGE COLLECTION & DISPOSAL							
	5100 - PERSONAL SERVICES							
5111	SALARIES - DEPT.HEADS	30,319.00	30,318.34	31,931.00	23,135.33		-31,931.00	-100.00%
	Matt Quinn 40% Unit-B G4/S6 $83,256 Moving 100% to DPW budget 11/18/2020 budget mtg							
5112	SALARIES - SUPERVISORS/ADM.SEC	55,843.00	59,834.69	61,632.00	27,546.65	55,108.00	-6,524.00	-10.58%
	Confidential Sec. BEA G20-S6 @75%							
5116	SALARIES - LABORERS	68,893.00	68,992.66	70,959.00	30,229.24	127,029.00	56,070.00	79.01%
	T-Parrot Sewer Tech - DPW chart G14-S9 - Added Sewer Tech @ G14-S- After 7/1/12 per 11/18/20 Budget Mtg $54,649							
5117	WAGES - HOURLY EMP.(PERM)	0.00	549.76	0.00	1,042.87			0.00%
5130	OVERTIME - WAGES	30,000.00	20,168.55	30,000.00	17,519.89	30,000.00		0.00%
5141	LONGEVITY	2,787.00	2,748.10	2,858.00	2,918.11	1,583.00	-1,275.00	-44.61%
5190	INCENTIVE PAY	0.00	0.00	300.00		300.00		0.00%
	Total	187,842.00	182,612.10	197,680.00	102,392.09	214,020.00	16,340.00	8.26%
	5200 - PURCHASE OF SERVICES							
5211	ENERGY - ELECTRICITY	7,500.00	7,845.36	8,500.00	5,118.63	8,500.00		0.00%
5213	ENERGY - OTHER FUELS	1,000.00	312.09	1,000.00	995.76	1,000.00		0.00%
5230	NON-ENERGY - WATER	600.00	616.95	750.00	367.50	750.00		0.00%
5240	R&M - BLDGS & GROUNDS	300.00	0.00	300.00		300.00		0.00%
5242	R&M - LIGHT TRUCKS	1,000.00	0.00	1,000.00		1,000.00		0.00%
5248	R&M - MACH.& EQUIP (BY OTHER)	80,000.00	50,301.49	30,000.00	23,697.35	27,500.00	-2,500.00	-8.33%
5273	RENTALS - HEAVY EQUIPMENT	1,500.00	0.00	2,500.00		2,200.00	-300.00	-12.00%
5274	RENTALS - UNIFORMS	1,100.00	309.77	550.00	188.99	550.00		0.00%
5304	SERVICES - CONSULTANTS	55,000.00	40,608.72	55,000.00	2,517.15	25,000.00	-30,000.00	-54.54%
	Cut 55k to 22k (Savery) but added 200k for op costs WWF increased $3k and moved to $200k to new line 1/15/2021 mtg							
5315	SERVICES-LEGAL,OUTSIDE COUNSEL	2,500.00	10,453.50	5,000.00		5,000.00		0.00%
5318	SERVICES-WASTE REMOVAL & DISPO	400,000.00	400,000.00	410,000.00	410,000.00	420,250.00	10,250.00	2.50%
	$400,000 FY20 - $410,000 FY21 - $420,250 FY22 - 2.5% increase annually							

User: MEllis **Last Expenditure Update: 03/08/2021** *Page 442-1*
Report: *03/18/2021 03:52:37 PM*

TOWN OF BOURNE

Expenditure Budget Report

2022 Town Budget

Account	Description	2020 App	2020 Exp	2021 App	2021 Exp	Town Admin. Rec.	$ Change	% Change
	442 - SEWERAGE COLLECTION & DISPOSAL							
	5200 - PURCHASE OF SERVICES							
5340	COMMUNICATIONS - TELEPHONE	2,000.00	1,321.34	2,000.00	756.78	2,000.00		0.00%
5341	COMMUNICATIONS - POSTAGE	1,000.00	372.50	900.00	745.22	900.00		0.00%
5342	COMMUNICATIONS - PRINTING	350.00	163.29	350.00		300.00	-50.00	-14.28%
5349	CONTRACTED SVCS-DECOMMISSION S	0.00	0.00	0.00				0.00%
	11/18/2020 Mtg per T.S. add new line of $100k to remove Savary septic system							
5351	CONTRACTED SERVICES - O&M	0.00	0.00	0.00		256,000.00	256,000.00	100.00%
	$200k operating charge from 5200-5307 plus addition support $38,500 + 16,750 = 55,250 round to 56k 1/15/2021 mtg							
	Total	553,850.00	512,305.01	517,850.00	444,387.38	751,250.00	233,400.00	45.07%
	5400 - SUPPLIES							
5420	OFFICE SUPPLIES - GENERAL	200.00	33.22	150.00		150.00		0.00%
5432	BLDG./EQUIP.SUPP.- TOOLS	4,500.00	3,704.11	5,000.00	620.97	5,000.00		0.00%
5450	CUSTODIAL SUPP. - CLEANING	25.00	0.00	25.00			-25.00	-100.00%
5451	HAZARDOUS MATERIAL EQUIP	5,000.00	0.00	4,000.00		4,000.00		0.00%
5481	VEH.SUPP.- DIESEL	2,500.00	2,496.46	3,500.00	1,210.23	3,500.00		0.00%
5482	VEH.SUPP.- OIL & LUBE	100.00	0.00	1.00			-1.00	-100.00%
5484	VEH.SUPP.- PARTS	2,500.00	320.71	2,500.00	12.47	2,500.00		0.00%
5485	VEH.SUPP.- REG,INSPECTIONS	350.00	95.00	350.00	110.00	350.00		0.00%
5584	OTHER SUPP.- PROTECTIVE CLOTH.	4,000.00	2,774.65	4,500.00	1,275.36	4,500.00		0.00%
	Total	19,175.00	9,424.15	20,026.00	3,229.03	20,000.00	-26.00	-0.12%
	5700 - OTHER CHARGES AND EXPENDITURES							
5760	CAPITAL ASSESSMENT - TOWN OF W	188,478.00	188,477.53	188,478.00	188,477.53	188,478.00		0.00%
5781	LICENSE REIMBURSEMENT	375.00	0.00	375.00	239.00	375.00		0.00%
	Total	188,853.00	188,477.53	188,853.00	188,716.53	188,853.00		0.00%

TOWN OF BOURNE

Expenditure Budget Report

2022 Town Budget

Account	Description	2020 App	2020 Exp	2021 App	2021 Exp	Town Admin. Rec.	$ Change	% Change
	442 - SEWERAGE COLLECTION & DISPOSAL							
	5800 - CAPITAL OUTLAY							
5870	REPLACEMENT EQUIPMENT	105,000.00	42,249.71	105,000.00		90,000.00	-15,000.00	-14.28%
5871	NEW EQUIPMENT	5,000.00	0.00	5,000.00		5,000.00		0.00%
	Total	110,000.00	42,249.71	110,000.00		95,000.00	-15,000.00	-13.63%
	5900 - PERMANENT DEBT SERVICE							
5910	PRINCIPAL LONG TERM DEBT	20,000.00	20,000.00	35,000.00		10,000.00	-25,000.00	-71.42%
5915	INTEREST-LONG-TERM DEBT	2,000.00	2,000.00	35,000.00	1,173.61	28,100.00	-6,900.00	-19.71%
5920	TEMPORARY INTEREST	2,000.00	0.00	2,000.00			-2,000.00	-100.00%
	Total	24,000.00	22,000.00	72,000.00	1,173.61	38,100.00	-33,900.00	-47.08%
	SEWERAGE COLLECTION &	1,083,720.00	957,068.50	1,106,409.00	739,898.64	1,307,223.00	200,814.00	18.15%

User: MEllis **Last Expenditure Update: 03/08/2021** *Page 442-3*
Report: *03/18/2021 03:52:37 PM*

TOWN OF BOURNE

Expenditure Budget Report

2022 Town Budget

Account	Description	2020 App	2020 Exp	2021 App	2021 Exp	Town Admin. Rec.	$ Change	% Change
	947 - MISCELLANEOUS							
	5700 - OTHER CHARGES AND EXPENDITURES							
5798	RESERVE FUND Reduce from $100k to $50k per 11/18/2020 budget mtg	50,000.00	0.00	100,000.00		50,000.00	-50,000.00	-50.00%
	Total	50,000.00	0.00	100,000.00		50,000.00	-50,000.00	-50.00%
	MISCELLANEOUS Total	50,000.00	0.00	100,000.00		50,000.00	-50,000.00	-50.00%

User: MEllis **Last Expenditure Update: 03/08/2021** *Page 947-4*
Report: *03/18/2021 03:52:37 PM*

TOWN OF BOURNE

Expenditure Budget Report

2022 Town Budget

990 - TRANSFERS

Account	Description	2020 App	2020 Exp	2021 App	2021 Exp	Town Admin. Rec.	$ Change	% Change
	5961 - TRANSFER TO GENERAL FUND							
9000	DIRECT EXPENSE	0.00	134,709.00	0.00	140,944.00			0.00%
	Total	0.00	134,709.00	0.00	140,944.00			0.00%
	5963 - TRANSFERS TO CAPITAL PROJECTS							
9000	DIRECT EXPENSE	0.00	0.00	0.00				0.00%
	Total	0.00	0.00	0.00				0.00%
	5966 - TRANSFERS TO TRUST & AGENCY							
9000	DIRECT EXPENSE	0.00	30,000.00	0.00	30,000.00			0.00%
	Total	0.00	30,000.00	0.00	30,000.00			0.00%
	5967 - TRANS TO CAP PROJ GEN FD 30							
9000	DIRECT EXPENSE	0.00	0.00	0.00				0.00%
	Total	0.00	0.00	0.00				0.00%
	5978 - TRANSFER FROM BOND PREMIUM							
9000	DIRECT EXPENSE	0.00	0.00	0.00				0.00%
	Total	0.00	0.00	0.00				0.00%
	5980 - TRANSFERS OUT							
9000	DIRECT EXPENSE	0.00	0.00	0.00				0.00%
	Total	0.00	0.00	0.00				0.00%
	5983 - TRANSFER FROM RET EARNINGS							
9000	DIRECT EXPENSE	0.00	0.00	0.00				0.00%
	Total	0.00	0.00	0.00				0.00%
	5984 - TRANSFER FROM RESERVE FOR EXPE							
9000	DIRECT EXPENSE	0.00	0.00	0.00				0.00%
	Total	0.00	0.00	0.00				0.00%

TOWN OF BOURNE

Expenditure Budget Report

2022 Town Budget

990 - TRANSFERS

Account	Description	2020 App	2020 Exp	2021 App	2021 Exp	Town Admin. Rec.	$ Change	% Change
	TRANSFERS Total	0.00	164,709.00	0.00	170,944.00			0.00%

TOWN OF BOURNE

Expenditure Budget Report

2022 Town Budget

Account	Description	2020 App	2020 Exp	2021 App	2021 Exp	Town Admin. Rec.	$ Change	% Change
	991 - TRANSFER TO GENERAL FUND							
	5920 - INTERFUND TRANSFERS							
5922	TRANSFER OF AVAILABLE FUNDS	0.00	0.00	0.00				0.00%
	Total	0.00	0.00	0.00				0.00%
	TRANSFER TO GENERAL FUND	0.00	0.00	0.00				0.00%
	SEWER ENTERPRISE Total	1,133,720.00	1,121,777.50	1,206,409.00	910,842.64	1,357,223.00	150,814.00	12.50%

User: MEllis **Last Expenditure Update: 03/08/2021** *Page 991-7*
Report: *03/18/2021 03:52:38 PM*

James Potter said it could impact how we set the rate in the summer vs the budget now, is there any cost saving to not operating the plant or postponing the operations of the plant. We would have to ask the grant partners if that was possible.

Tony Schiavi said from a treatment standpoint there is plenty of capacity for Wareham and they can treat it less expensively.

Jared MacDonald said we should ask, if we pause to open/start the plant, would there be any harm if we postpone the opening – will any components be damages if it is not running.

James Potter said we should consider if we leave the equipment not operational, we have to find out if that is possible; and if we do run the equipment, there is a minimum capacity that we have to send for the equipment to function correctly. We have to meet 25% of the flow, or we could run into issues.

Mary Jane Mastrangelo said we have a ground water discharge permit that identified a particular starting flow for the plant to be operational. We have over 4 million dollars that we are getting in grant money from EDA and MassWorks. Jeopardizing that 4 million dollars to save a little might not be in the best interest for the town. Another thing to consider for this year's budget is using more than 50,000 in retained earnings. We have to look at retained earnings, we have to look at the budget, we have to look at the long term, and we have to look at the current situation as a temporary situation pending additional flow and additional revenue coming in. We have to manage the cash flow. Encourage the use of 135,000 in retained earnings.

James Potter said using retained earnings to supplement the operating budget isn't a good idea. Retained earnings is not for operational costs, it should be for capital improvements to the system.

Judy Froman said we should make it a practice that we put money into retained earnings.

Voted: Judy Froman moved and seconded by Jared MacDonald to approve the updated sewer budget FY22 as presented.
Roll Call Vote: Jared MacDonald - Yes, Judy Froman - Yes, George Slade - Yes, Peter Meier - Yes, James Potter - Yes
Vote: 5-0-0.

4.D. Equivalent Resident Unit (ERU) System Development Charge discussion and possible vote

James Potter said some of the businesses were concerned about their rates. This item is about the system development charge, which also has the same ERU title. In the rate study done by Tighe & Bond was that we could change to an ERU rate, which would tie water usage more closely to actual water usage with the rate. The Board did not adopt that ERU system, we were going to take a year to look at it.

2nd part of the study is the ERU system development charge. That is based on the study of what we were charging in our allocation policy for a new business locating to town. This is for a new business that is locating to down town and connecting to the sewer system, what they would be paying for allocation for the gallonage that they are requesting.

We should adopt this development charge; the staff will know how many ERU a project will need. This ERU method is legally defensible in court.

Peter Meier questioned is it imperative that we take action this evening? If we don't have to take action tonight can we do a workshop format so we can go through the information, do some outreach.

James Potter said this is for new businesses locating to Bourne, not current businesses. If we don't approve this now then we would have to collect the 06 & 17 policies together, which is a higher number. We should adopt this system, which has done the math for the ERUs, in cost and number of gallons. Any delay in collecting what we should be collecting will affect the current rate payers.

Judy Froman said it would be good to have more information on what the comparison is of the ERU practice vs. what we are currently doing, what would end up happening if we had to do the 06 and 17 fees.

James Potter said in the workshop we will talk about this as a system development charge for a new business locating to down town.

The ERU is based on 150 gallons
Take the business type
Multiply out the fixtures by the gallons = certain amount of ERUs
Multiply by 3600 = Cost

Voted: Peter Meier moved and seconded by Jared MacDonald to defer action on this agenda item to a future meeting or workshop.
Roll Call Vote: Jared MacDonald - Yes, Judy Froman - Yes, George Slade - Yes, Peter Meier - Yes, James Potter - Yes
Vote: 5-0-0.

4.E. Sewer Policy and Regulations (Section 1 and Section 2 Adoption; Section 3 thru 9 and Appendix – 3rd Reading)

James Potter said we have section 1 & 2 adoption, section 3-9 and appendix for third reading.
Section 1 – definition
Section 2 - allocation policy

Judy Froman said she does feel comfortable discussing it but not sure about voting on it because it wasn't posted with the agenda, people don't have the draft with the edits.

Glenn Cannon went over the edits.
Page 3 Section 1.1
This is in reference to an opinion from Bob Troy, Town Counsel, as to the authority of the Board of Sewer Commissioners. This is what gives the BOS acting as the BOSC the authority to make these rules and regulation.

Page 5 Section 2.1
3rd paragraph there is a substantial change. This is to change the allocation policy over to a flow-based policy.

Section 2.2 - cleaning up the language.
Section 2.3 – Clean up the language in paragraph A. Paragraph B has a substantial change. If an applicant comes before the Board and we don't have enough allocation we shouldn't reject them, they should be able to talk to staff.

Page 8 Section 3.4 Backwater valves – added "The DPW shall have the right to inspect all backwater values in accordance with Section 6.0 of these regulations. Where backwater values are required, they shall be installed and maintained continuously in satisfactory and effective operation by and at the expense of the owner or user.

Page 23 Section 6.1 A - added backwater valves to the list of what the sewer staff would be able to inspect.

Glenn Cannon said there are old regulation on the website from 1990.

James Potter said we can add this item to the agenda for the workshop.
In the back of the document will be all the attachments the applicant would need.

4.F. Cape Cod and Islands Water Protection Funding Allotment/Reimbursement discussion

James Potter said this is the current data that was collected on behalf of Bourne and other communities for the Cape and Islands short term rental tax. This is what has been collected on behalf of the state that has been put aside for Bourne. The Cape Cod and Islands Board just manages what the state tells them was collected.

Locality Code	Town	Amount	Amount	Amount	Amount	Amount	Amount	Amount	Total by Town
0020	Barnstable	$ 387,290.86	$ 665,008.54	$ 190,411.68	$ 125,682.00	$ 72,530.34	$ 137,734.56	$ 971,010.82	$ 2,549,668.80
0036	Bourne	21,464.63	34,155.16	19,267.77	18,587.41	8,493.80	29,638.84	145,032.70	276,640.31
0041	Brewster	193,246.58	331,672.53	43,636.85	19,138.08	174,650.43	75,198.62	597,112.72	1,434,655.81
0055	Chatham	347,169.10	619,393.95	98,197.18	46,522.41	320,965.99	164,370.23	1,092,985.17	2,689,604.03
0075	Dennis	220,038.97	303,281.43	44,992.74	35,347.52	196,673.13	126,797.69	696,844.56	1,623,976.04
0086	Eastham	130,380.25	200,475.83	34,232.74	23,600.86	83,045.31	78,081.81	488,384.48	1,038,201.28
0096	Falmouth	242,416.22	436,694.42	91,992.87	50,798.34	111,181.07	119,537.64	641,477.29	1,694,097.85
0126	Harwich	167,327.73	299,382.65	37,033.86	17,273.73	110,397.41	72,405.01	507,110.04	1,210,930.43
0172	Mashpee	47,289.83	67,206.15	24,815.40	13,828.87	24,867.20	42,072.97	214,273.47	434,353.89
0224	Orleans	89,540.52	148,356.73	21,341.78	11,153.89	66,600.98	47,345.49	345,365.03	729,704.42
0242	Provincetown	373,116.79	641,571.90	131,022.66	60,212.50	115,038.46	126,083.66	1,042,865.57	2,489,911.54
0261	Sandwich	71,541.53	112,198.39	32,206.36	20,077.61	28,143.71	40,494.69	264,913.79	569,576.08
0300	Truro	109,227.48	209,451.49	19,266.95	9,966.20	106,603.97	68,457.03	406,761.12	929,734.24
0318	Wellfleet	89,549.42	139,546.30	22,002.93	15,527.98	48,883.21	49,524.70	425,326.47	790,361.01
0351	Yarmouth	409,646.40	624,108.01	76,236.01	45,228.91	305,187.77	147,313.27	885,021.09	2,492,741.46
Total Received		**$ 2,899,246.31**	**$ 4,832,503.48**	**$ 886,657.78**	**$ 512,946.31**	**$ 1,773,262.78**	**$ 1,325,056.21**	**$ 8,724,484.32**	**$ 20,954,157.19**
Periods cover		Jul 2019 - Aug 2019	Sep 2019 - Nov 2019	Dec 2019 - Feb 2020	Mar 2020 - May 2020	Jun 2020 - Aug 2020	Jun 2020 - Jul 2020	Sep 2020 - Feb 2021	

James Potter said he will look into why Bourne is so much lower than other communities.

Received a call from David Vieira regarding the warrant article for this spring.
There was concern from one of the Selectmen in Mashpee about the language that we had in the article. Representative Vieira will find out more from the Executive Board of the Cape and Islands Water Protection Board whether they are going to review our warrant article. Mr. Potter will update the Board when he hears back from Representative Vieira.

There was concern that the money would be going off Cape. Bourne has a preexisting IMA with Wareham. We have to be eligible to receive back money that we put in to the fund.

The Water Protection Board asked me to pursue this, have us go to Town Counsel, draft a Home Rule Petition, and pursue an amendment of the language at the state level. We are doing what we were requested to do.

If we get a reimbursement from the Cape and Islands Water Protection fund, how do we want to allocate the reimbursement. Does the town share in the reimbursement, for also contributing money, or does the Enterprise Fund receive the entire reimbursement. The town put money towards the project, the Enterprise Fund paid the rest.

Do not believe there are conditions/strings attached for what to do with the money. Don't believe we have to use the money in a certain way or put the money into a specific account. This Board/Board of Selectmen has to decide how we want to handle a reimbursement back to the town. The reimbursement could go into Retained Earnings.

Jared MacDonald suggested to discuss it in the workshop to have open conversation. The town should be able to get some of the reimbursement.

James Potter said the Executive Board hired a money management firm that is helping to determine what the percentages would be. We could offset the economic taxes that were collected by the town on behalf of the development. Be careful trying to subsidies the sewer rate with this reimbursement, it should be used as a Capital Retained Earnings function.

4.G. Joint Base Cape Cod (Converge) update

Glenn Cannon said we are still having conversations with the applicant about taking over the wastewater system on Joint Base Cape Cod, Converge Partners, LLC. Still talking about taking leachate from the Integrated Solid Waste facility, and integrating it. Converge continues to move forward, they still don't have a contract to purchase or take over the system.

Helen Gordon said Joint Base Cape Cod is in our scope of work for the Comprehensive Plan. Even if you are not part of the coalition moving forward, would be taken into consideration on the watershed analysis.

Tony Schiavi said the effluent from the Base going through the filtration beds eventually goes into the canal. As part of the public education, it would be important for people to know how septic systems work, how ground water discharges work, how outflow pipes work.

5) New Business

A. Any new sewer business (not foreseen 48 hours ahead of this meeting)

B. Public Comment

James Potter said we received correspondence from the Buzzards Bay Coalition regarding a federal grant program that they thought they would be eligible for.

Glenn Cannon said there was federal funding for projects that would be available for our region. Haven't looked into it, we'll continue to pursue that.

5.B. Public Comment
Catherine Walton questioned the formula for the new sewer rate.
James potter explained how the new sewer rate would work/be calculated.

Future Agenda Items

A. **Buzzards Bay Wastewater Treatment Facility**
B. **Comprehensive Wastewater Management Plan**
C. **Cape Cod and Islands Water Protection Fund**
D. **Sewer Commissioner Regulations & Policies Guidebook and implementation**
E. **Savary Avenue**
F. **Inflow and Infiltration Study**
G. **Upper Bay Project (Bourne-Wareham-Marion-South Plymouth)/Buzzards Bay Coalition**
H. **Equivalent Residential Unit Sewer Rate Analysis**
I. **Bourne/Wareham Inter-municipal Agreement subcommittee**
J. **Bourne/Wareham Inter-municipal Agreement Capital**
K. **Joint Base Cape Cod Sewer**

6) Adjourn

Voted: Judy Froman moved and seconded by Peter Meier to adjourn at 9:41 P.M.
Roll Call Vote: Jared MacDonald - Yes, Judy Froman - Yes, George Slade - Yes, Peter Meier - Yes, James Potter - Yes.
Vote: 5-0-0.

Respectfully submitted – Carole Ellis, secretary.

ENVIRONMENTAL PARTNERS

March 17, 2021

James Potter, Chairman, Board of Sewer Commissioners
Bourne Town Hall
24 Perry Avenue - Room 101
Buzzards Bay, MA 02532-3441

RE: Town of Bourne, MA
CWMP Project Plan of Study

Dear Mr. Potter,

Enclosed for your review is the Plan of Study for the Town of Bourne Comprehensive Wastewater Management Planning project. Our engineering team developed the Plan of Study in accordance with the Massachusetts Department of Environmental Protection guidelines dated January 1996. We divided the Plan of Study into the following components:

- Phase I - Needs Assessment
- Phase II – Identification of Alternatives
- Phase III - Draft Recommended Plan
- Phase IV – MEPA and Cape Cod Commission Development of Regional Impact (DRI) Review

We plan to file an Environmental Notification Form (ENF) under the Massachusetts Environmental Policy Act (MEPA) at the completion of Phase III, identifying the steps to complete draft and final Environmental Impact Reports (EIRs). We also plan to initiate the Cape Cod Commission Development of Regional Impact review process at the completion of Phase III. The draft and final EIRs will be completed in Phases III and IV, respectively.

The Plan of Study is proposed to be general in nature, in order to be flexible as we proceed. We expect to complete this project in approximately three years with a cost-effective and inclusive information sharing process.

We have sent this document concurrently for regulatory review through the Massachusetts Department of Environmental Protection, Southeast Regional Office. The attached document is provided for your review and comment. Should you have any questions, please feel free to call Mark White or me from Environmental Partners.

Sincerely,

Environmental Partners Group, Inc.
Helen T. Gordon, PE
Senior Program Manager
O: 617.657.0954
E: htg@envpartners.com

Enclosure – Town of Bourne CWMP Plan of Study

Cc: Brian Dudley, MassDEP
Andrew Osei, MassDEP
Anthony Schiavi, Town Administrator
Glenn Cannon, Assistant Town Administrator
Tim Lydon, Town Engineering Department
Sam Haines, Town Conservation Department

ENVIRONMENTAL PARTNERS

TOWN OF BOURNE

COMPREHENSIVE WASTEWATER MANAGEMENT PLANNING PROJECT

Plan of Study

March 17, 2021

Environmental Partners (EP) prepared this Plan of Study (POS) for the Town of Bourne (Town) to initiate the Comprehensive Wastewater Management Plan for the Town. EP prepared the POS in accordance with the Massachusetts Department of Environmental Protection's Guide to Comprehensive Wastewater Management Planning dated January 1996.

Project Background

The Town is located at the head of Cape Cod, stretching from Buzzards Bay to Cape Cod Bay. The Cape Cod Canal splits the Town into Northern and Southern halves, with an economic center in Buzzards Bay north of the canal and another economic center along MacArthur Boulevard south of the canal. The Town has 10 villages and harbors, and hosts the Massachusetts Maritime Academy, a secondary education complex located at the west end of the Cape Cod Canal. Joint Base Cape Cod, in the southeastern portion of Town, owns over 40% of land area. The Town's population is 20,500 (40,000 seasonally). Residents are converting summer homes into year-round residences and new subdivisions are highly sought after.

Bourne recognizes that it has a wealth of water sources and that protecting them is fundamental to the Town's economic future. In 2019, the Town adopted and the Cape Cod Commission accepted the Town's updated Local Comprehensive Plan (LCP). The LCP contains action items including:

> "Identify, remediate, treat or contain identified sources of pollution in coastal embayments and estuaries to attain established TMDLs and create a comprehensive wastewater management plan to upgrade public and private wastewater treatment facilities and methods in appropriate areas especially in densely developed neighborhoods, and actively seek grants and other funding to carry out the plan."

The Town actively participates in the Massachusetts Estuaries Project (MEP) with the Department of Environmental Protection. Total Maximum Daily Loads (TMDLs) are in place for Phinney's Harbor, including Eel Pond and Back River, Wild Harbor, Fiddlers Cove, Rand Harbor, and Megansett-Squeteague Harbors. The Town continues to work with the Buzzards Bay Coalition for embayments, which MEP is no longer studying, including Buttermilk Bay, Pocasset Harbor, and Pocasset River. Bourne is a member of the Cape Cod Commission and is part of the Cape Cod Area Wide Water Quality Management Plan (208 Plan). The 208 Plan supports Cape towns by providing a framework of traditional and nontraditional technologies

for intercepting and treating nitrogen discharges on a watershed basis. The Commission assisted Bourne in applying for a $2.3 million Economic Development Administration grant for the construction of the new Wastewater Treatment Plant (WWTP) in Buzzards Bay, awarded in February 2019. The WWTP is expected to be online in spring 2021.

The town of Bourne proposes to prepare a town-wide CWMP in a four-phased approach.

- Phase I – Needs Assessment
- Phase II – Identification of Alternatives
- Phase III – Draft Recommended Plan
- Phase IV – MEPA and Cape Cod Commission Development of Regional Impact (DRI) Review

Execution of this plan will be consistent with other local planning efforts including but not limited to Cape Cod Commission 208 Plan, potential regional approaches and plans, Bourne-Wareham Inter-municipal Agreement, Buzzards Bay Coalition Upper Bay Project, considerations of Joint Base Cape Cod proposals, and flow allocation to the new Buzzards Bay Wastewater Treatment Facility.

CWMP Detailed Plan of Study

Phase I - Needs Assessment

The objective of the Needs Assessment is to develop an understanding of the Existing and Future water quality conditions within the planning area, and review previous planning efforts related to watershed protection, economic development, and population growth. The Needs Assessment will describe water quality in the Town's watersheds, identify impacts associated with nitrogen loadings from wastewater disposal under existing and anticipated future population levels, and identify areas of need for wastewater disposal solutions based on each watershed's TMDL goals. The understanding developed through the Needs Assessment will provide the context of the alternative management and mitigation strategies developed in Phase II.

Review of Prior Planning Efforts

The Town has completed several types of previous wastewater evaluations including:

- 2007: Town wide Analysis (Tighe & Bond)
- 2012: Downtown Buzzards Bay Analysis (CH2M Hill)
- 2015 – Ongoing: Wareham-Marion-Plymouth-Bourne Regionalization Alternatives (Buzzards Bay Coalition, GHD)

EP will review these studies, as well as the 2019 Bourne Local Comprehensive Plan, and incorporate into the needs assessment, as applicable. Flow projections and needs areas will be updated using current Board of Health Title V compliance data, records of onsite system failures, I/A systems in operation and neighborhood treatment systems as well as incorporating Zoning changes. These figures will be prepared using GIS mapping that depicts wastewater disposal issues and historic data. Additional data sources EP will incorporate into the assessment are water quality data and historic records for the Town's marine and freshwater surface water bodies and embayments.

The following Massachusetts Estuaries Project Total Nitrogen TMDL Final reports, and the associated linked watershed-embayment model final reports, will also be incorporated:

1. Phinney's Harbor, including Eel Pond and Back River (2007)
2. Wild Harbor (2017)
3. Fiddlers Cove and Rand Harbor (2017)
4. Megansett-Squeteague Harbors (2020)

We will collect and assess data from water quality monitoring programs in Bourne to aid in determining conditions in watersheds not assessed by the MEP program. Studies and data may include:

- Final Pathogen TMDL for Buzzards Bay Watershed (2009)
- Canal North – Cape Cod Bay Monitor – Station 15
- Buttermilk Bay - Buzzards Bay Coalition monitoring location data
- Pocasset Harbor - Buzzards Bay Coalition monitoring location data
- Red Brook Harbor – Buzzards Bay Coalition monitoring data and nitrogen modeling results

We will incorporate reports on regional initiatives, including the Buzzards Bay Coalition evaluation of alternatives to regionalize the Wareham WWTF, and the joint planning effort for the expansion of the Joint Base Cape Cod wastewater facilities. The Town will also coordinate with neighboring communities and joint stakeholders including but not limited to the Towns of Barnstable, Falmouth, Sandwich, and Wareham.

Assessment of Current and Future Conditions

We will assess current and future conditions town-wide and on an individual watershed, and village, basis. Figure 1 illustrates the town's watersheds and coastal waters in relation to its harbors and villages.

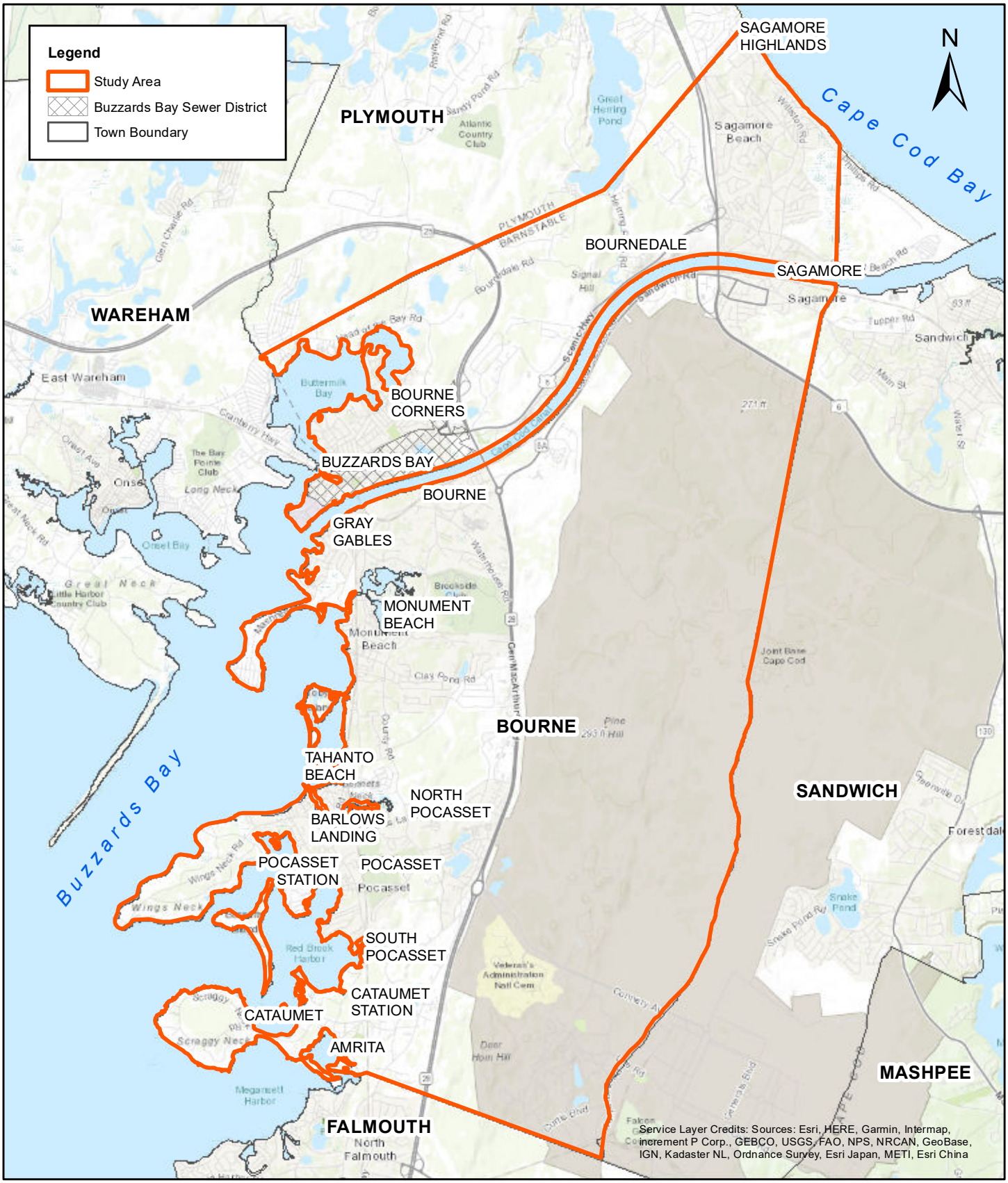
The 2019 Town of Bourne Local Comprehensive Plan (LCP) will be the basis for economic and demographic trends in the Town. The projection of build-out forecasts in the LCP, which provides a current assessment of existing population and future growth, will also be used as the basis for the Needs Assessment. The current condition of existing wastewater infrastructure, including large-scale facilities at Buzzards Bay, Wareham, and JBCC, as well as small-scale public and private wastewater treatment facilities, will be documented. The future condition of these facilities will be assessed by including the projected buildout in their service areas.

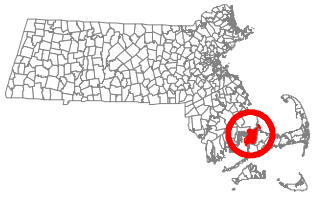
Base mapping showing existing conditions will be created using GIS data layers from Town, State, and Federal sources. The GIS mapping will portray conditions of the human-made and natural environment including land use, zoning, surficial geology, soil conditions, watershed delineations, water supply zones of contribution and environmentally sensitive areas.

If not already documented by the MEP program, current wastewater nitrogen loading rates and septage/wastewater flows will be estimated on a watershed basis in the same manner as the MEP process. Future septage/wastewater flows will be estimated on a watershed basis in a similar manner. If the appropriate Assessors data is available, these estimates will also be described with respect to residential, commercial and industrial property uses, and will also characterize discharges according to seasonal and year-round property uses.

Nitrogen loads provided in existing MEP reports will be used for those watersheds that have been evaluated. To establish nitrogen impacts on water quality and nitrogen load reductions

in watersheds not studied under the MEP program, work being done by the Buzzard Bay Coalition in Bourne waters will be used. For other watersheds, comparable watersheds studied under the MEP program will be used. The Town will coordinate with MassDEP to identify watersheds on Cape Cod that are comparable to Bourne watersheds.





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ENVIRONMENTAL PARTNERS

Town of Bourne, MA
Comprehensive Wastewater Management Plan
STUDY AREA
FIGURE 1

J:\Town GIS\Bourne\CWMP\Mapbooks\Figure1_StudyArea.mxd

Wastewater Needs and Problem Identifications

Based on the findings of the above tasks, a technical report will summarize existing wastewater conditions and future wastewater needs in the Town, and provide recommendations for priority areas of need.

Finally, after completion of the Needs Analysis, the Town will file a Notice of Project Change (NPC) with MEPA to provide notice of the Needs Assessment Report. It will describes the results and conclusions of the assessment, and identify those areas targeted for evaluation of management alternatives. The Town will complete notices in the MEPA Environmental Monitor and local newspaper, in compliance with Section 11.16 of the MEPA regulations.

Phase II – Identification and Screening of Alternatives

This phase includes an analysis and screening of wastewater treatment and management alternatives for addressing the water quality and infrastructure issues identified in the Needs Assessment. This Phase will consist of two screening processes:

- preliminary screening phase
- detailed evaluation of alternatives

We will assess both structural and non-structural measures. We will identify and evaluate management alternatives based on the following treatment factors:

- A baseline conditions alternative that would determine the level of treatment possible by optimizing the existing wastewater collection, treatment and disposal facilities;
- Identification of areas where on-site septic systems are inadequate;
- Decentralized treatment options for areas with inadequate on-site septic systems, including alternative treatment systems such as Permeable Reactive Barriers (PRB) or aquaculture, cluster systems, and package wastewater treatment facilities;
- Centralized treatment options, including expansion/upgrade of the existing WWTPs to improve nitrogen removal, and regional options for residuals reuse and/or disposal;
- Collection system alternatives for centralized and decentralized treatment; and
- Flow and load reduction measures, including water conservation.

The screening analysis will evaluate the options identified above and potential locations for the siting of facilities. Factors to be considered include cost, design flexibility for handling varying loads and upgrades, environmental impacts and constraints, effluent quality, permit requirements, odor emissions, land requirements, ease of implementation, maintenance/operation requirements, greenhouse gas (GHG) emissions, public acceptance, conformance with the LCP, and climate change resiliency. The Town will evaluate up to four alternatives of Town-wide wastewater management for further evaluation in the Draft Recommended Plan:

1. One alternative that establishes sewer needs areas, outlining a contingency plan considering conventional sewer and treatment approaches
2. One alternative that encompasses the regional approaches being evaluated through the Buzzards Bay Coalition and the JBCC, and is complemented with decentralized systems for those areas not served by the regional systems; and

3. Two alternatives comprised of decentralized and innovative/alternative technologies including but not limited to enhancement of onsite systems with advanced treatment and innovative/alternative strategies such as shellfish aquaculture, permeable reactive barriers

For each of these alternatives the specific management approach to be utilized in each of the Town's watershed and/or village areas will be described.

- For the Buzzards Bay area north of the canal, evaluate the cost-effectiveness of the regional approach being considered through the Buzzards Bay Coalition with Wareham and Marion versus "going it alone" by expanding the package treatment plant and forecast the cost to ratepayers by pursuing either the regional or isolated solution. EP will take into consideration any additional accommodations for the North Sagamore neighborhood, as they may need a more tailored approach to take full advantage of the regional approach.
- For the area south of the Canal, evaluate whether a regional solution with the JBCC is more cost effective than developing local options on a village-by-village basis, or that considers alternative technologies such as advanced onsite systems, permeable reactive barriers, and aquaculture. Forecast the ratepayer costs under either a regional or a local approach, similar to the wastewater management approach north of the canal.
- Develop an approach to upgrade onsite and neighborhood treatment facilities, especially in areas of densely developed neighborhoods.

An alternatives matrix will be prepared and organized by findings from the Needs Analysis, including both structural and non-structural approaches. EP will draft evaluation criteria, and provide to the Town Board of Sewer Commissioners for review and modification. Based on discussions with the Board of Sewer Commissioners, the Commissioners will decide upon the recommended alternative strategies for detailed evaluation in Phase III.

EP will submit an interim report summarizing the findings and recommendations of this Phase to MassDEP and will hold an informal review meeting to discuss any pre-review comments.

Phase III – Draft Recommended Plan

The purpose of the draft Recommended Plan is to describe the impacts and potential mitigation measures associated with each of the alternatives selected through the Screening Analysis. It will detail the factors and evaluation methodology used to rank the alternatives identified in the Screening Analysis and select a Recommended Plan. Alternatives will be ranked based on environmental impacts, costs, implementation capability, regulatory requirements and constraints, public acceptance, reliability, flexibility, optimization of existing facilities, GHG emissions, climate change resiliency and other considerations identified during the planning process.

The following will be developed for each of the four final alternatives:

- Concept-level capital costs for design, permitting and construction
- Estimated operation and maintenance costs, including energy usage of the alternative

- Administrative and regulatory requirements associated with the alternative, including Board of Health bylaw changes associated with onsite systems and permitting requirements
- Water Quality Improvement Attributes, as outlined in the MassDEP CWMP guidelines, including main watershed/embayment and secondary watershed/embayment, as applicable
- Potential consequences on growth in the context of current zoning and on the goals articulated in the updated Local Comprehensive Plan

Based on discussions with the Board of Sewer Commissioners, cost-allocation approaches will be considered for each alternative, such as betterments, property taxes, user fees or a combination of these. Once an approach consensus is determined by the Board of Sewer Commissioners, a financial pro-forma will be developed for each alternative that identifies estimated annual costs to the Town and property owners.

Results will be compiled according to the detailed characterization of each alternative and summarized in a table according to the following factors:

- Watersheds impacted
- Present worth
- Cost effectiveness, including capital and operating costs
- Environmental Impacts, including impacts on wetlands, water supply considerations, historical and archeological considerations
- Institutional Considerations: such as the need for changes in local by-laws and government organizations
- Sitting considerations for any necessary pumping and/or treatment systems
- Phased Implementation opportunities that could reduce cost and environmental impacts.
- Reliability and flexibility
- Other factors as determined by the planning process

Based on the comparison results, the Board of Sewer Commissioners will select a recommended plan; including formulating an implementation schedule for the recommended plan that considers design, permitting and construction stages. Once the Town presents the Draft Plan to the public, EP will compile findings and comments from public workshops, and include them in the Draft Recommended Plan/EIR (DEIR) for submission to MassDEP and MEPA. The Town will submit notices to the MEPA Environmental Monitor and local newspaper, in compliance with Section 11.16 of the MEPA regulations.

Phase IV – MEPA and CCC DRI Reviews

The Town will include the Cape Cod Commission (CCC) in completing a Development of Regional Impact (DRI) Review. The MEPA Environmental Impact Report describing the comprehensive plan will serve as the submittal to the Commission for the DRI. The DRI application will articulate the relationship of the CWMP to the 208 Area Wide Water Quality Management Plan, for which the Cape Cod Commission is the lead agency.

Public Participation

Public Participation will be initiated at the start of the project and be ongoing throughout the life of the project. We intend to create an opportunity for public education, outreach and

participation throughout the execution of the project. The public workshops/meetings will begin with an announcement of the meeting date, location and agenda. Announcements on the town website, local cable channel, and other outlets for distribution as chosen by the Town will inform participants of upcoming meetings and workshops. The Town will provide agendas and background information to attendees prior to the meeting. The Town will structure workshops to ensure engagement and time for interaction and sharing of opinions and ideas, including breakout sessions with smaller groups of individuals.

There will be three public hearings for presentation of the Recommended Plan, one with the Town and two with the Cape Cod Commission, to meet the requirements of the CWMP process. A summary report on the public participation activities of Phases I, II and III will be prepared and included in the final CWMP and Final Environmental Impact Report (FEIR). Table 1 shows a preliminary schedule for the public participation activities associated with Phase I, II and III.

Table 1: Stakeholder Meeting Schedule

Scope of Work Task	**Targeted Population**			
	Town wide	***North of the Canal***	***South of the Canal***	***Cape Cod Commission***
Phase I - Needs Assessment				
a. Wastewater Issues	One*	One	One	
b. Wastewater Needs and Problem Identification	One			
Phase II - Identification and Screening of Alternatives				
a. Proposed Criteria	One*			
b. Refine criteria and matrix	One*			
c. Present Refinement	One			
Phase III - Formulation of Plan				
a. Cost Allocation Discussion	One*			
b. Review the evaluation results and the plan	One			
c. Public Hearing	One			
Phase IV - MEPA & CCC DRI Reviews	One**			Two**

Notes: *One meeting will be presented with Board of Sewer Commissioners, a public meeting.
**Considered Public Hearings, in accordance with CWMP process requirements.

The Town will be providing a page on the Town's website specifically for the CWMP project, where information will be regularly uploaded and shared with the public. This website information may include meeting and workshop agendas and minutes, presentations, deliverables, background documents, specific public information content related to the CWMP, and recordings of public meetings and hearings, and regular updates.

Quarterly meetings with the Board of Sewer Commissioners will provide an opportunity for communication amongst the project team and town leaders, and a forum for the public to gain insight on the project and how it is progressing. A preliminary schedule for the

deliverables to be shared to the Town CWMP website associated with public participation activities is provided in Table 2.

Table 2: Public Participation Plan - Targeted Information Sharing Schedule

Scope of Work Task	Type of Document Shared			
	Public Notice and Agenda	**Workshop Findings**	**Summary Document**	**Other**
All Tasks				Monthly Progress Update
1. Project Startup & Plan Review				Project Introduction
4. Needs Assessment				
a. Wastewater Issues	Two	One		
b. Wastewater Needs and Problem Identification	One	One	Needs Assessment	Task 4 Scope of Work
5. Identification of Alternatives				
a. Proposed Criteria	One	One		
b. Refine criteria and matrix	One*			
c. Present Refinement	One	One	Alternatives Matrix	Task 5 Scope of Work
6. Formulation of Plan				
a. Cost Allocation Discussion	One*			
b. Review the evaluation results and the plan	One	One	Evaluation results	Plan Draft
c. Public Hearing	One	One	Response to Comment	Final Draft
7. Completion of MEPA & CCC DRI	Two		Final CWMP	

Notes: *Document will be part of regularly scheduled Board of Sewer Commissioners meeting.

Schedule and Costs

An anticipated schedule is attached as Figure 2, and a cost estimate for the total costs of the plan, broken down by task, is included in Table 3 below.

Table 3: Town of Bourne CWMP Costs

CWMP Phase	Description	Cost	% of Total
	MassDEP Plan of Study	$39,600	7.1%
I - IV	Project Updates and Public Participation Facilitation	$151,500	27%
I	Needs Assessment	$48,010	8.6%
II	Identification, Screening and Evaluation of Alternatives	$144,900	25.8%

III - IV	Formulation of Recommended Plan	$176,300	31.4%
	TOTAL BUDGET:	**$561,000**	**100%**

Town of Bourne
Board of Sewer Commissioners
Commercial Wastewater Management Allocation Policy

Contents

I. Purpose of these Policies and Procedures

The Town of Bourne (referred to herein as the Town), through an Inter-Municipal Agreement, may send up to 200,000 gallons per day (gpd) of wastewater for treatment and disposal to a plant owned by the Town of Wareham. Further, it is anticipated that another 100,000 gpd will be available for allocation when a new package treatment plant on the Town's Queen Sewell Park site becomes operational. The Board of Sewer Commissioners (referred to herein as the Board) controls the allocation of wastewater treatment capacity among parcels in the sewered areas of the Village of Buzzards Bay and assigns allocations on a parcel-by-parcel basis.

In order to follow an objective process for awarding wastewater allocations, the Board shall henceforth apply the following procedures for granting allocations from the Town's Uncommitted Reserve Capacity to development and re-development in Bourne's Downtown.

These policies and procedures are in effect primarily for commercial development; single-family residences and residential buildings with up to four units are exempt. The guideline for which properties/projects are required to follow these procedures is: if a development or a change of use requires review by the Bourne Planning Board, then it requires review by the Board of Sewer Commissioners using the policies and procedures described herein.

Further, in order to ensure that unused allocations will not prevent property owners and/or developers from coming forward with projects that may be in the long-term best interests of the Town, the Board hereby establishes a system of periodic reviews of allocations.

II. Uncommitted Reserve Capacity

Annually, during the month of September, the Board shall determine the Uncommitted Reserve Capacity, as defined in Section VIII.

The Board shall grant allocations from the Uncommitted Reserve Capacity in a two-step process detailed below: Applicants shall obtain a Preliminary Allocation and, after meeting established Milestones, can request an Operational Allocation.

III. Obtaining a Preliminary Allocation

A. The Applicant shall apply to the Board for a Preliminary Allocation on a form prescribed by the Board. A sample is appended to this policy statement. An Application Fee (Filing Fee) is due at the time the application is deemed complete and accepted (see Section VII).

B. If the application requests a flow amount that exceeds the Uncommitted Reserve Capacity (see draft application) but is otherwise complete, it will be dated and put on a waiting list. When allocation becomes available, the Board will consider requests on the waiting list in the order in which they were dated. If enough allocation is available and the application fee is paid, the project application will be deemed complete and accepted.

C. The Board shall review applications on a first come, first served basis within sixty days after the Application is deemed complete. If the requested allocation is available within the Uncommitted Reserve Capacity, the Board shall grant Preliminary Allocations to projects which:

1) Demonstrate evidence of adequate financing;
2) Demonstrate control of the project's parcels (*i.e.* Purchase and Sale agreement, evidence of ownership);
3) Have been presented to the Planning Board for preliminary project review;
4) Have Milestones established with the mutual agreement of the Board and the Applicant; and
5) Demonstrate that the requested allocation is based on state and local regulations.

D. If the Board grants a Preliminary Allocation, the Applicant shall have up to two years to initiate construction. A Preliminary Allocation Fee is due at the time the Board grants the Preliminary Allocation (see Section VII).

1) During the two years, the Applicant shall show substantial progress in regular six-month reports to the Board. The Board retains the right to revoke the Preliminary Allocation if the Applicant cannot demonstrate progress, although the Board may allow for the continuation or extension of a Preliminary Allocation in the case of delays not under the control of the Applicant. If the Preliminary Allocation is revoked, the allocation shall revert to the Town.

2) When the Board grants a Preliminary Allocation, the Applicant shall pay a Preliminary Allocation Fee as set forth in the Town's Schedule of Rates and Fees.

3) If the Board extends the Preliminary Allocation beyond the designated two-year period, the Applicant shall annually pay a Preliminary Allocation Extension Fee (see Section VII).

E. The Application Fee, the Preliminary Allocation Fee, and any Preliminary Allocation Extension Fees are non-refundable if the Preliminary Allocation is revoked by a majority vote of the Board.

F. After the Board's vote to grant a Preliminary Allocation, the Applicant shall be issued a letter signed by the Town Administrator certifying to the existence of a Preliminary Allocation for that specific project/parcel(s) and including any conditions imposed by the Board. Copies of the letter will be sent to the Town's Building Inspector, Health Agent and Planner.

IV. Obtaining an Operational Allocation

The Preliminary Allocation shall be converted to an Operational Allocation by vote of the Board when the project has been issued a Building Permit.

A. The Board may attach conditions and may reduce or increase the Allocation based on Massachusetts DEP regulations and final approved project design. Where capacity is reduced by Board action, the unused capacity shall revert to the Town.

B. After the Board's vote to convert the Preliminary Allocation to an Operational Allocation, the Applicant shall be issued a letter signed by the Town Administrator certifying to the existence of an Operational Allocation for that specific project/parcel(s) and including any conditions imposed by the Board. Copies of the letter will be sent to the Town's Building Inspector, Health Agent and Planner.

V. Managing Unused/Underused Allocations

A. Within six months of the adoption of this policy, the Board shall conduct a public hearing in order to review the Allocations made to parcels on which betterments have been paid but no development has occurred. At that hearing, parcel owners shall be invited to provide the Board with a report of their plans for development within the next two years.

1) If the parcel owner does not provide such a report, or if the parcel owner reports but has no acceptable plans for development in the next two years, the parcel will be considered as having no allocation.

2) If, at a future time, the parcel owner presents a development project, the owner shall go through the full application process as defined herein.

B. If a project with an Operational Allocation has no flow two (2) years after the date that the allocation was granted by the Board, it shall expire and revert to the

Town's Uncommitted Reserve Capacity. There shall be no refund of any fees paid on the reverted Allocation. The Board may grant extensions if it finds that the holder of the Allocation has been working diligently to implement the project and no relevant local or state approvals have expired.

C. When a project that has been granted its Operational Allocation is complete and has been online for three years, the Board shall compare actual flows against the amount granted in the Operational Allocation.

1) If the actual average daily flow exceeds the Allocation, the applicant shall apply for an Allocation equal to the difference, and shall pay the user fee assessed per gpd by the Town at that time.

2) If the actual average daily flow is less than the Allocation, the difference in gpd shall revert to the Town's Uncommitted Reserve Capacity unless the Applicant can demonstrate a continuing need. There shall be no refund of previously paid fees.

VI. Conversion of Existing Allocations

A. At the time of the adoption of this policy, existing Allocations in functional facilities shall be considered Operational Allocations.

B. Allocations that have been granted by vote of the Board to projects not complete at the time of the adoption of this policy shall be considered Preliminary Allocations. The developer or owner of such projects shall have six months to meet the requirements for a Preliminary Allocation as stated in Section III C. herein and to pay the Preliminary Allocation Fee described herein minus the amount of fees paid previously. When the requirements of Section III C. herein have been met, the procedures in Section III D-F herein shall apply.

VII. Fees

A. During the process of obtaining a Preliminary Allocation, the applicant shall be assessed fees as periodically established by the Board, which is hereby authorized to establish or amend wastewater allocation fees from time to time as follows:

1) Application Fee: due upon application for a Preliminary Allocation.

2) Preliminary Allocation Fee: due within 30 days of the Board's approval of the Preliminary Allocation. The fee shall be based upon the projected wastewater flow.

3) Preliminary Allocation Extension Fee: due within 30 days of the Board's vote to extend the Preliminary Allocation beyond the original two years and shall be paid annually for as long as the extension is continued.

B. When the allocation is converted to an Operational Allocation by vote of the Board, the applicant shall pay user fees as designated by the Board of Sewer Commissioners.

C. In cases where a Preliminary Allocation expires and a new person applies for capacity for the same project on the same site, the Board may consider previous fees paid by the original person when establishing fees for the new project.

VIII. Definitions

The following words and phrases have the meanings below:

Actual Flow: the volume of wastewater from any individual unit (residential, commercial or institutional) connected to the sewers as measured by a certified water meter.

Allocation: a specified amount of wastewater treatment capacity measured in gallons per day (gpd) assigned to a specific project on a specific parcel or parcels upon a majority vote of the Board. All allocations to projects shall be based on state and local regulations. The transfer of all or part of an allocation is prohibited unless approved in writing by the Board.

Allocation Fee: a non-refundable fee established by the Board to be paid by the Applicant within 30 days of the time the Allocation, Preliminary or Operational, is voted.

Application: a form which shall be completed by the Applicant to request an allocation of wastewater management capacity from the Uncommitted Reserve Capacity. A sample form is attached to this policy statement. The Board may from time to time vote adjustments in the information requested on the form.

Application Fee (Filing Fee): a non-refundable one-time fee established by the Board to be paid at the time the Application is deemed complete and accepted. An application shall be deemed complete when it is date stamped and signed by the receiving Town official. Incomplete applications, including applications without the required fee, shall not be processed.

Board: the Bourne Board of Sewer Commissioners.

Development and re-development: the construction of improvements on a parcel or parcels of land for any purpose, including, but not limited to institutional, commercial and/or industrial activity.

Gpd: gallons per day

Milestones: goals set by mutual agreement between the Applicant and the Board to measure progress toward meeting the requirements to convert a Preliminary Allocation to an Operational Allocation. Some examples are: finalizing financing, demonstrating control of the parcel(s), receiving final order of conditions from the Planning Board, obtaining all required state and local permits.

Operational Allocation: an amount of wastewater treatment capacity in gallons per day assigned to a project by vote of the Board after the project has been issued a Building Permit. This may or may not be the same allocation amount as in the Preliminary Allocation depending on the parameters of the project, the availability of a different

amount of allocation, and the demonstration by the applicant that the project meets all state and local requirements for wastewater treatment. The Operational Allocation shall be reviewed after three years. Any excess of actual flows over the Operational Allocation shall not be available to the project, to another project, or to project expansion and shall be returned to the Town's Uncommitted Reserve Capacity.

Operational Allocation Fees: annual user fees as designated by Town regulations. The first Operational Allocation Fee shall be due within 30 days of the Board's vote to grant an Operational Allocation.

Preliminary Allocation: an amount of wastewater treatment capacity in gallons per day assigned for a period of two years to a project in its early stages of development. If all appropriate conditions to the project are met, this Preliminary Allocation assures the applicant that the required wastewater treatment capacity will be available when the project is ready for operations. As a condition for retaining the Preliminary Allocation, the Applicant must provide status reports to the Board every six months. The Preliminary Allocation shall be voided if the Applicant does not provide information for these periodic reviews or if the Board determines by majority vote that the mutually agreed upon Milestones are not met. The Board can extend a Preliminary Allocation beyond two years or convert a Preliminary Allocation to an Operational Allocation by majority vote.

Preliminary Allocation Fee: a non-refundable one-time fee based on the project's projected flow. This fee shall be due within 30 days of the Board's vote to grant a Preliminary Allocation.

Preliminary Allocation Extension Fee: a non-refundable fee paid at the time the Board votes to extend a Preliminary Allocation beyond the normal two-year period. This fee shall be due within 30 days of the Board's vote to extend and shall be paid annually for as long as the extension is continued.

Residential Reserve: two percent of the systems' designated treatment capacity held in reserve to allow expansion by existing single-family residences. This reserve is to be calculated annually as part of the determination of the Uncommitted Reserve Capacity.

Sewers: the wastewater treatment system.

Uncommitted Reserve Capacity: that portion of the wastewater systems' treatment capacity remaining after subtracting the Preliminary Allocations, the Operational Allocations, existing residential flow and the Residential Reserve from the systems' designated treatment capacity. This determination shall begin by comparing all allocations, Preliminary and Operational, with actual flows for the previous fiscal year, on a parcel or project basis. Parcel /project owners with significant differences between allocations and flows shall be requested to explain the difference and describe any changes expected in the next 12 months. The Board reserves the right to reduce the allocation for projects more than three years old demonstrating a significant excess of allocation over flow. In that case, the difference between the new and old allocations shall revert to the Town and be counted in the Uncommitted Reserve Capacity. (See page 3 for parcels with paid betterments and unused flow capacity.) The Board shall

determine the amount of the Uncommitted Reserve Capacity annually and designate such Uncommitted Reserve Capacity to be available for the next fiscal year.

User fees or sewer use fees: annual fees established by vote of the Board.

Waiting list: a list of applications where the requested allocation was not available but which are otherwise deemed complete. The list is stored with the dated applications.

Wastewater: used water discharged from buildings to the treatment plant and monitored on a continuing basis. Can be interchanged with "sewage."

Attachments:

Proposed Preliminary Commercial Allocation Application Form

Flow chart

Certificate of Vote

Adopted by vote of the Bourne Board of Sewer Commissioners Oct 4, 2017
Date

Board of Sewer Commissioners:

Peter J. Meier, Chair

George G. Slade, Jr. Vice Chair

Donald J. Pickard, Clerk

Michael A. Blanton

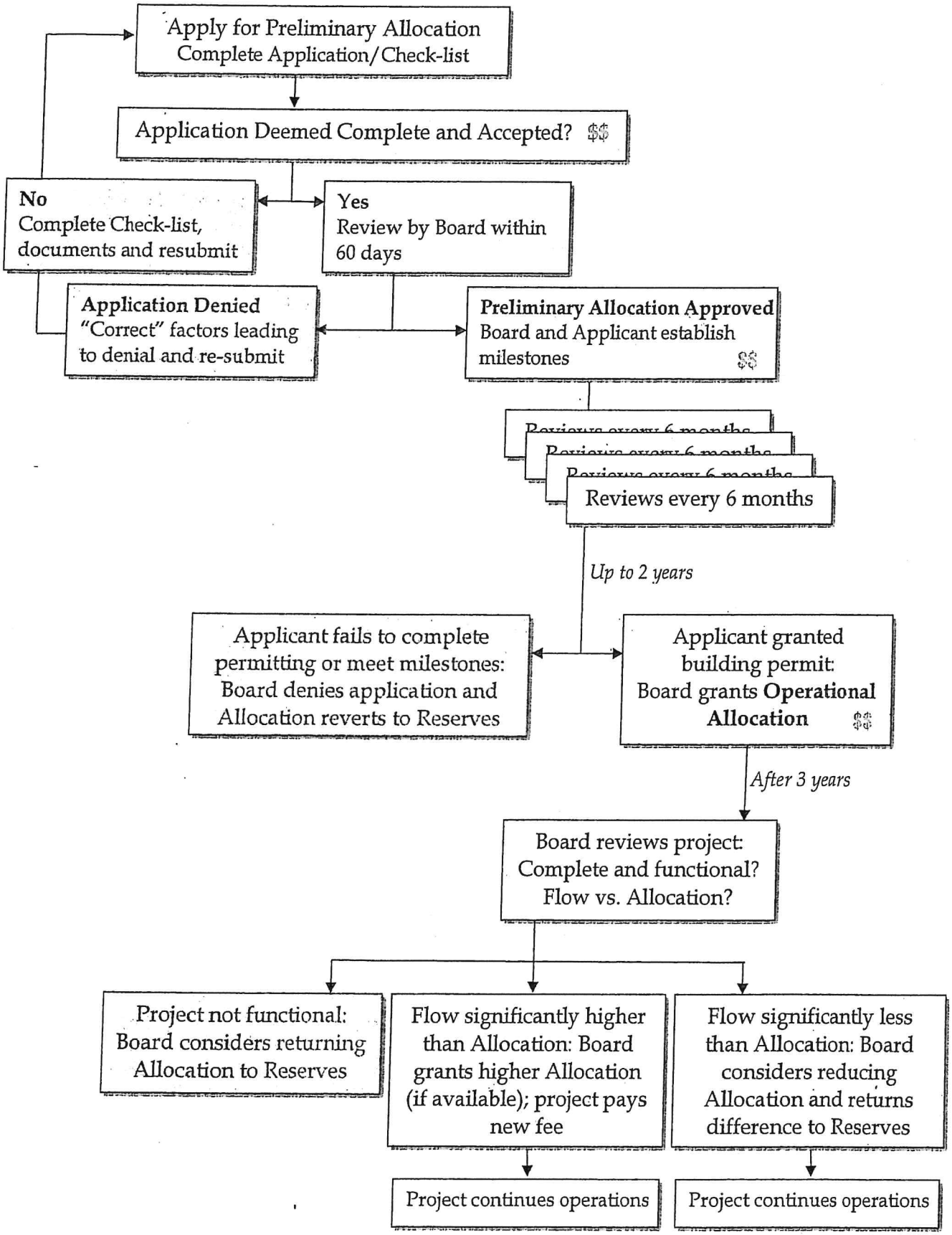
Judith MacLeod-Froman

A True Record

Barry H. Johnson

Barry Johnson, Town Clerk

Flow Chart of Application Process for Wastewater Allocations



Town of Bourne

Board of Sewer Commissioners

Allocation Process Fees

Application Fee (Filing Fee) (one-time): $1,500

Preliminary Allocation Fee (one-time): $5,000 plus $1 per projected gallons per day flow

Preliminary Allocation Extension Fee (annual): $2,500 plus $1 per projected gallons per day flow

Operational Allocation Fees or sewer use fees: annual user fees defined by vote of the Board

Certificate of Vote

Adopted by vote of the Bourne Board of Sewer Commissioners Sept 26, 2017 Date

Board of Sewer Commissioners:

Peter J. Meier, Chair

George G. Slade, Jr. Vice Chair

Donald J. Pickard, Clerk

Michael A. Blanton

Judith MacLeod-Froman

A True Record

Barry H. Johnson

Barry Johnson, Town Clerk

Downtown Bourne Sewer System Allocation

Commercial Wastewater Management Allocation Policy (Approved October 2017)

OWNER	LOCATION	GPD Req'd	GPD Exist'g	$1500 App Paid Date	Planning Board Approval Date	Preliminary Allocation Approval Date	Prelim Alloc Fee	Prelim Alloc Date Paid	Sewer Develop Fee	Comments	6-Month Review Date
	2020 GPD Downtown Actual Use	112496								Based on yearly flow (2018 = 108,719gpd; 2019 = 111,345gpd; 2020 = 118,211gpd)	
	2% Residential Reserve	6000									
Operational Allocations											
Vincent Michienzi	85-93 Main Street	13000	931	10/24/2018		10/15/2018	$18,000.00	10/24/2019		**Temp OC**	11/25/19, 5/25/2020, 9/8/2020
HAMPTON INN	12 Kendall Rae Place	15243	4614			9/30/2014		11/11/2019	$48,533.12	**OP issued: Jan 2020**	On-line (3 year review Jan 2023) 2020 = 4614gpd
	Total Operational GPD	**146739**									
Preliminary Allocations											
GENCON/Robert Gendron	12 Wagner Way	17750		1/5/2018		6/18/2019	$22,750.00	11/20/2019			11/25/2019, 5/25/2020, 2/1/2021
CALAMAR	13 Kendall Rae Place	16800			1/29/2018	9/19/2017	$21,800.00	1/6/2020			11/25/19, 5/25/2020
Vincent Michienzi	100 Block	26080				10/13/2015				**-1000 gpd 11/25/2019 (originally 27080)**	11/25/19, 5/25/2020, 9/8/2020
Oak Bay Brewery	140 Main Street	2256		8/23/2019	11/14/2019	12/18/2019	$7,256.00	1/16/2020			7/18/2020, 9/8/2020
MMA Cadet Housing	11 Buttermilk Way	7070	310	12/27/2019	N/A	1/28/2020	$12,070.00	2/20/2020			9/8/2020
James McLaughlin	227 Main Street	79	40	12/31/2019	10/10/2019	1/28/2020	$5,079.00	2/7/2020			9/8/2020
Bay Motor Inn	223 Main Street	11985	640	5/20/2020		7/28/2020	$16,335.00	9/1/2020		Approval after BBWD moratorium sent letter 08.03.2020	2/1/2021
CMP Development LLC	2 Kendall Rae Place	46475		2/25/2020		7/28/2020	$51,475.00			Approval after BBWD moratorium sent letter 08.03.2020	10/28/2020
340 Main St LLC	340 Main St	3095		8/19/2020	2/27/2020	8/25/2020	$8,095.00	11/2/2020		Potential 2nd phase to include 18-24 residential units / sent letter 09.01.2020	2/1/2021
	Total Approved GPD	**278329**									
	Total Available GPD	**21671**									
Pending Applications		Requested:									
Projects Not Counted		Requested:									
Louis Costa	25-27 Main Street	0	36				$0.00	N/A		**Waiver Received**	Waiver Req'd
Judah Branagan	6 Washington Ave	880	0					N/A		**Approval not required**	
Conceptual Projects											
Updated: 2/18/2021						Fees total to Date:	$162,860.00		$48,533.12		

CERTIFICATE OF VOTE

At a meeting of the Sewer Commissioners of the Town of Bourne, held on January 17, 2006, a quorum being present and voting throughout, upon a motion duly made and seconded, it was

VOTED: Sewer Use Charges as follows:

Design Review and Construction Inspection Fee: $1,500

Commercial Sewer Permit Fee:
$150 plus $.10 per square foot of building floor space

Sewer Connection Fee:
Annual sewer use fee times the number of business units

Residential Sewer Permit Fee:
$100 for residential properties plus $100 for each addition unit

Sewer System Development Charge:
$73.406 per foot of frontage plus $11,539.356 per acre

RECEIVED
TOWN CLERK BOURNE
2006 MAR -3 AM 11:35

BOARD OF SEWER COMMISSIONERS

Linda M. Zuern

Carol A. Cheli

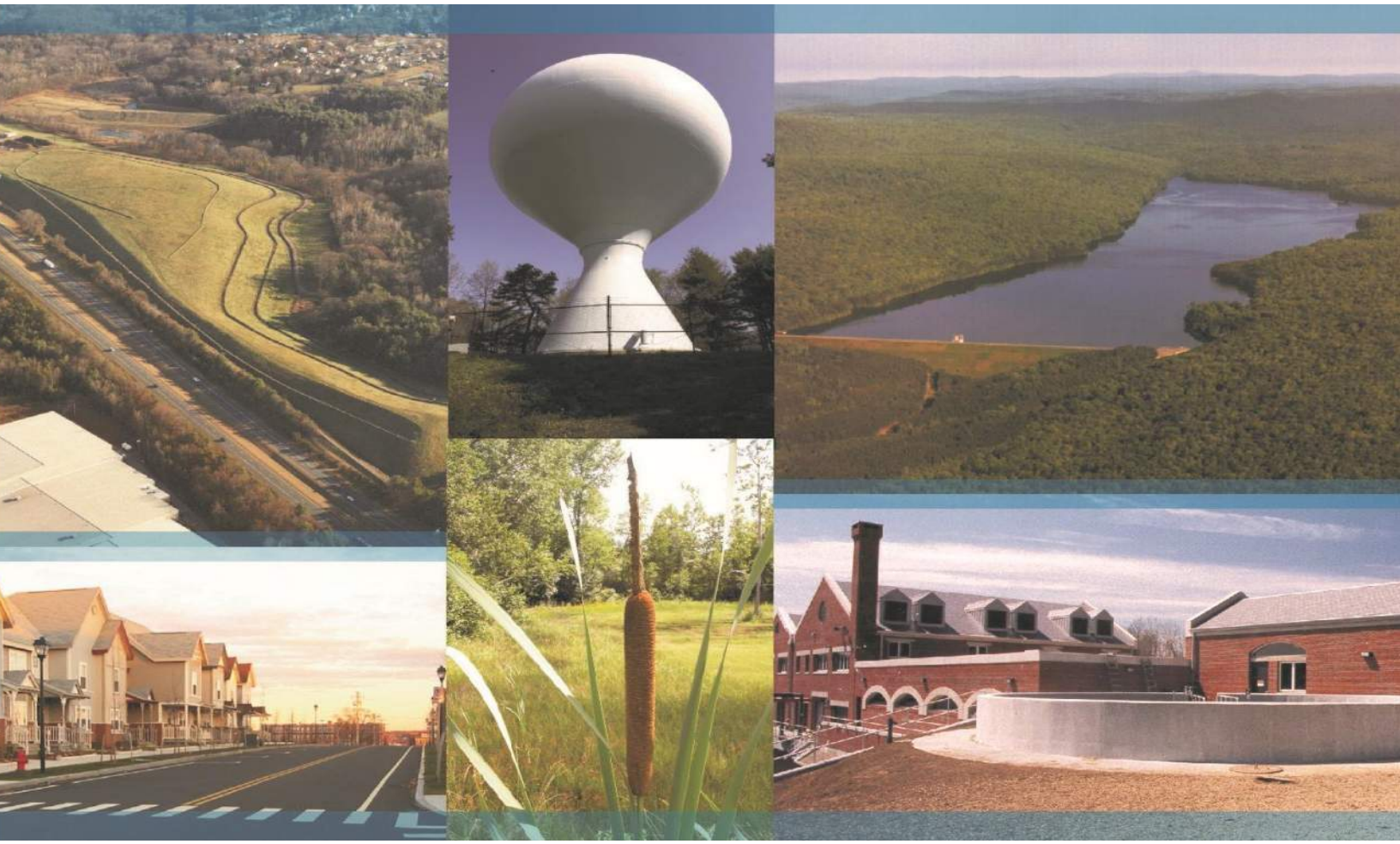
Richard E. LaFarge

Galon "Skip" Barlow

W. Thomas Barlow

A True Record

Town Clerk



Sewer Rate and Capacity Management Evaluation

Town of Bourne

February 2020

REVISED
7/10/2020

Section 1 Introduction

Section 2 Capacity Allocation Assessment

Section 3 Financial Evaluation – Revenue Needs

Section 4 Rates and Revenue

Section 5 Conclusions and Recommendations

Section 1
Introduction

This report was released in February 2020 and discussed at an in-person workshop held on March 16, 2020 which effectively began the COVID-19 quarantine period. The rate evaluation was further discussed at the July 2, 2020 and July 12, 2020 sewer commission meetings. One of the many impacts of COVID-19 were that meetings were no longer held in person and the July meetings were conducted via the Zoom video conferencing platform. To better support this platform, Tighe & Bond combined the elements of a written report and a presentation in the form of a detailed "handout" which consists primarily of the core figures and tables with key discussion points identified. While the handout contains the same elements as the report it is based upon more updated data and information. This document is a convergence of the detailed July 10 handout and the original text from the February 5, 2020 revised final draft. Updated information or tie-ins to the handouts (with page numbers) are clearly indicated. The handout is included in its entirety as an appendix.

The Town of Bourne owns and operates a municipal sewer system that collects wastewater from 604 residential and commercial parcels in the downtown, Taylor Point and Hideaway Village areas. The existing sewer system, constructed in early 1990's, consists of collection and pumping facilities only; all wastewater is sent to the Town of Wareham for disposal. Water is provided by the Buzzards Bay Water District.

The capacity of the Bourne sewer system is limited to 200,000 gallons per day (gpd) by the Intermunicipal Agreement (IMA) with Wareham, which was executed on February 23, 2010, and is valid through February 2030. In response to strong commercial growth in the downtown area, Bourne moved forward with the design and construction of its own municipal wastewater treatment plant (WWTP). The design capacity of the new treatment plant is 100,000 gallons per day, which increases the total sewer capacity to 300,000 gallons per day.

The Town engaged Tighe & Bond to review the existing capacity allocation policy, develop an impact fee policy and create an electronic rate model. The goal is to evaluate the viability of maintaining the existing rate structure compared to alternative rate structures.

During the data development phase, we discovered that the Town Meeting authorization or the WWTF clearly set the Town's expectations in terms of customer impacts. Given its significance, the entire motion is provided below:

Article 2, October 2017 Special Town Meeting

MOTION: That the sum of Six Million Five Hundred Fifty-Eight Thousand Dollars ($6,558,000.00) is appropriated to make various wastewater system and wastewater treatment improvements for the protection of human and environmental health and to enhance the economic development in Bourne, such funds to be used for planning, constructing, originally equipping and furnishing a wastewater treatment facility and ancillary space on town-owned land, including the payment of all costs incidental and related thereto, and that to meet this appropriation, the Treasurer, with the approval of the Selectmen, is authorized to borrow said amount under and pursuant to Chapter 44, Section 8(14) of the General Laws, or pursuant to any other enabling authority, and to issue bonds or notes of the Town therefor; provided, however, that no sums shall be borrowed or expended pursuant to this motion unless and until the Selectmen shall have determined that sewer rates and charges have been established to pay all costs of operating and maintaining the Town's sewer enterprise, including the cost of any existing debt service currently payable from the sewer enterprise, and that sewer rates have been so established as to provide for the full payment in each year of debt service on Two Million Four Hundred Thousand Dollars ($2,400,000) of bonds or notes issued pursuant to this vote. The amount authorized to be borrowed by this vote shall be reduced to the extent of any grants received by the Town on account of this project. Any premium received upon the sale of any bonds or notes approved by this vote, less any such premium applied to the payment of the costs of issuance of such bonds or notes, may be applied to the payment of costs approved by this vote in accordance with Chapter 44, Section 20 of the General Laws, thereby reducing the amount authorized to be borrowed to pay such costs by a like amount.

VOTED: AYES 132; NAYS 24; declared a 2/3rds vote.

Our rate evaluations start with examining the revenue projected from existing rate structures against the estimated revenue needs (expenses) over a ten-year planning period. If the projected revenue falls short of the revenue needs, percentage increases are applied uniformly to all components of the rate structure (i.e. base fees and usage charges) to maintain the desired reserve balance. The cost impacts to residential customers are then calculated and reviewed in terms of equity. From there, incremental modifications to the existing rate structure are developed and reviewed. Typically, the residential costs for all alternatives are reviewed against each other with the lowest cost generally representing the most desirable option. The language outlined in the motion however sets a clear standard for evaluating not only the rate structure but fees as well, which was subsequently adopted as the primary project goal.

Section 2
Capacity Allocation Assessment

2.1 Defining and Measuring Sewer Capacity

The function of a public sewer system is to collect and transport wastewater from customers to a wastewater treatment plant where the wastewater is treated using both biological and chemical/physical processes.

Treated wastewater is discharged to either a surface water body or groundwater via subsurface disposal. A discharge permit is required for the above mentioned scenarios and are governed by different federal agencies. Surface water discharges are governed by the National Pollution Discharge Elimination System (NPDES) program while groundwater discharge administered by the Massachusetts Department of Environmental Protection (MADEP). The discharge permit defines effluent quality requirements and the maximum amount of treated wastewater that may be discharged. As a result, all ***wastewater treatment plants have a finite capacity***.

Bourne is considered a secondary system (no treatment) and currently sends all sewerage from its collection system to the Town of Wareham for disposal as authorized under the Intermunicipal Agreement (IMA) between the two towns. The IMA provides Bourne 200,000 gallons per day of capacity.

2.2 Capacity allocation policy

In 2017, the Town developed the Commercial Wastewater Management Allocation Policy (the Policy), which is designed to support growth by developing an impartial method of allocating capacity to new commercial developments.

The Policy consists of the following steps:

Application. An application is submitted as the first step to provide general information about a project, proposed location, and descriptions. More importantly, the application requires information relative to the applicant's intent and progress towards obtaining ownership of the parcel and securing financing. The last and most important information provided is the estimated flow that will be generated from the completed project site.

Preliminary Allocation. The Town has 60 days to respond and issue a preliminary allocation to the applicant provided that the applicant has demonstrated that project financing is available, ownership of the identified parcel has been secured, and that the estimated flow is less than the Uncommitted Reserve Capacity. The pool from which capacity is allocated from is referred to as the **Uncommitted Reserve Capacity (UCRC)** which is defined as the total available (permitted) capacity minus preliminary allocations, operational allocations, existing residential flow and the residential reserve (2% of residential flow). The preliminary allocation reserves the requested capacity for the applicant and provides the applicant with two years to initiate construction.

Operational Allocation. The preliminary allocation is converted to an operational allocation by the approval of the Town once a building permit has been issued. It

is assumed that the allocation amount is the same as that requested in the preliminary allocation application.

2.2.1 Program Maintenance

The policy has several checks and balances designed to maintain the system:

Public Hearing: The Board is required to conduct a public hearing within six months of the preliminary allocation approval. At the public hearing, the applicant is required to submit a report on their plans for development within the next two years. If the applicant fails to demonstrate sufficient plans for development, the allocation is considered void and the capacity returns to the Uncommitted Reserve Capacity.

Operational Allocation Review: If a property with an approved operational allocation has not commenced to discharge within two years, the allocation is voided and returned to the Uncommitted Reserve Capacity. Three years after the initial connection, the actual flows are compared to the approved allocation, if the actual flow is greater than the allocation, the property owner must apply for an additional allocation, if less, the difference is returned to the uncommitted reserve capacity.

Annual Update of the Uncommitted Reserve Capacity: The policy requires the Board to determine the uncommitted reserve capacity annually in September. The status of all allocations is to be reviewed as part of the determination.

2.3 Determination of Uncommitted Reserve Capacity

The Uncommitted Reserve Capacity (UCR) is calculated for 2018 based upon the following components as described in Section 2.1, and further described below:

1. **Existing Residential Usage**. The capacity allocation provided by the Wareham IMA is based upon the total volume of sewage that enters the Wareham collection system as determined by summing the flows from Bourne's two pump stations; Main Street and Hideaway. No distinction is made between residential and non-residential sewage. The total pumped volume for 2017 and 2018 is shown below in Table 2-1

Table 2-1
Total Wastewater Pumped (gpd)

Year	Main Street	Hideaway	Total
CY 2017	85,156	11,063	96,220
CY 2018	89,050	10,363	99,413

See page 2-7 for updated pumpage data

2. **Existing Allocations.** Existing allocations as of December 2019, are shown in the following tables.

Table 2-2
Recent Approvals (Operational)

Owner	Location	Allocation (gpd)	Application Date	Approval Date
Hampton Inn	12 Kendall Rae Place	15,243	-	9/30/2014
Vincent Michienzi	85-93 Main Street	13,000	10/24/2018	10/15/2018
	TOTAL	**28,243**		

Table 2-3
Pending Approvals (Preliminary)

Owner	Location	Allocation (gpd)	Application Date	Approval Date
GENCON/ 12 Wagner	12 Wagner Way	17,750	1/5/2018	6/18/2019
Calamar / 25 Perry	13 Kendall Rae Place	16,800	12/21/17	9/19/2017
Vincent Michienzi/ 100 Block	Cohasset / Main	26,080	-	10/13/2015
	TOTAL	**60,630**		

Table 2-4
Pending Applications

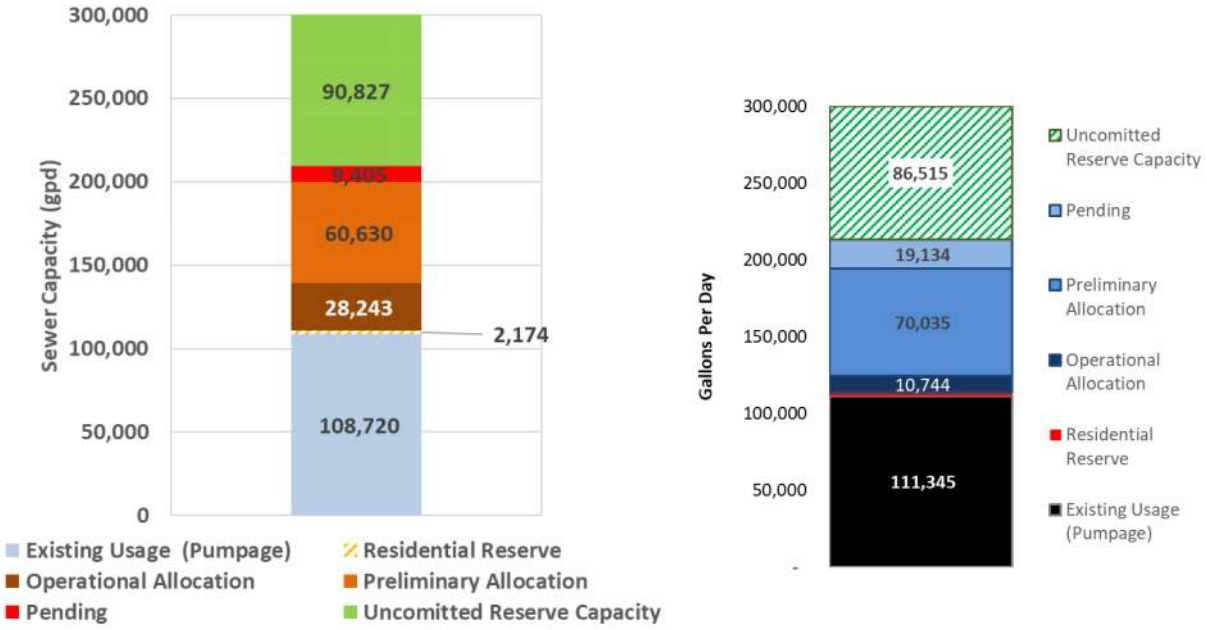
Owner	Location	Allocation (gpd)	Application date	Approval date
Oak Bay Brewery	140 Main Street	2,256	8/23/2019	12/18/2019
James McLaughlin	227 Main Street	79	12/31/2019	TBD
MMA Cadet Housing	11 Buttermilk Way	7,070	12/27/2019	TBD
	TOTAL	**9,405**		

The resulting Uncommitted Reserve Capacity based upon 2018 usage is shown below in Figure 2-1.

Projects marked with triangle above have come online since the project started, see handout page 8 for additional information

Figure 2-1
Uncommitted Reserve Capacity

Revised URC determined based upon 2019 pumpage with allocations for projects indicated on previous page removed.



The total of existing and allocated capacities is 199,679 gallons per day, which is almost at the existing allotted capacity defined by the Wareham IMA. However, it is important to understand that the inherent accuracy of this value is directly related to the method used to determine each component.

2.3.1 Accuracy of Uncommitted Reserve Capacity

The Uncommitted Reserve Capacity effectively defines the amount of commercial development that can be supported by the new WWTP. Sewer flows are determined by a variety of different methods for different purposes and each method has inherent accuracy limitations. Understanding these methods is important to maximize the value of the new WWTP investment.

The different uses of sewer flow and the methods used to determine them are as follows:

Customer Billing: Measuring actual sewer flow for small diameter pipes is impractical, so industry practice is to use metered water usage as a proxy. In Bourne, metered water usage data is provided by the Buzzard's Bay Water District. The Water District reads water meters twice each year and provides Bourne with a summary of annual (calendar year) usage by customer consisting of the two metered usages.

Disposal Costs: The annual operating cost assessed to Bourne by Wareham was based upon the actual sewerage that entered the Wareham sewer system[1] as measured at Bourne's two pump stations.

[1] On June 11, 2019 the two towns entered into a settlement agreement intended to resolve "multi fiscal year dispute" that effectively changed the basis of the operational charge to a fixed fee from a flow-based fee. For the purposes of this

Allocations: Allocations are based upon Title V, the common name for 310 CMR 15.000 The State Environmental Code Title V. Title V are the design guidelines for onsite wastewater disposal (septic) systems. Title V contains estimated flow values for residential and a variety of non-residential applications. These values are considered to represent a maximum day value versus the average day that Bourne manages to, it is also generally considered out of date and/or overly conservative.

The easiest Title V flow to evaluate against existing usage is for residential users. Title V estimates residential sewer usage to be 110 gallons per day per bedroom. Section 4.3 contains a distribution of usage for single family customers and shows that 50% had an annual usage of 20,000 gallons or less. A 3 bedroom assumption equals 18 gallons per day per bedroom. Using the residential water use value of 50 gallons per day per person reported by the Water District and assuming a 3-person household with 3 bedrooms, this equals 50 gallons per day per bedroom or 45% of Title V. **A 45% reduction factor was used in the financial analyses shown in Section 4.** The reduction factor for non-residential use is more difficult to determine as the Title V estimated flows are not available for existing non-residential customers.

Wareham IMA: The operational assessment of the IMA is based upon actual pumpage[1], while sewer customers are based upon metered water use. While it is common practice to bill sewer based upon water usage, the two can vary significantly for the following reasons:

1- **Not all drinking water becomes sewage.** The Buzzards Bay Water District experiences a 75% increase in water demand in the summer, much of this is related to outdoor water use, which does not contribute to the sewer flow. Table 2-5 compares the actual sewage flow as measured at the pump stations to the amount of wastewater customers were billed based upon water usage.

2- **Not all sewer flow is from drinking water**. Gravity sewers are susceptible to inflow and infiltration (I&I), which is ground water or stormwater that leaks into or enters the sewer system through illicit connections. I&I negatively impacts Bourne in two ways; it robs capacity that could otherwise tsupport additional residential and commercial developments (and generate revenue) and increases the cost of disposal.

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evaluation *we have assumed that the operational charge will return to a flow basis in the future*.

In recognition of the significance of Infiltration and Inflow statewide, the MADEP required all sewer systems to submit an Infiltration and Inflow Study by December 2018 or request an extension. Bourne requested an extension; thus, no data is available. To develop an order of magnitude understanding of I&I, water consumption and sewer pump station data were compared. Figure 2-2 shows this comparison, the water data reflects the usage for the entire water system so while the actual volume is not meaningful, the peaks are valid.

Year	Total Pumped	Total Billed	Delta %
CY 2018	39,683	38,637	103%
CY 2019	40,640	38,345	106%
Delta %	**2.4%**	**-0.8%**	**--**

Figure 2-2

Water Usage vs. Sewer Flow

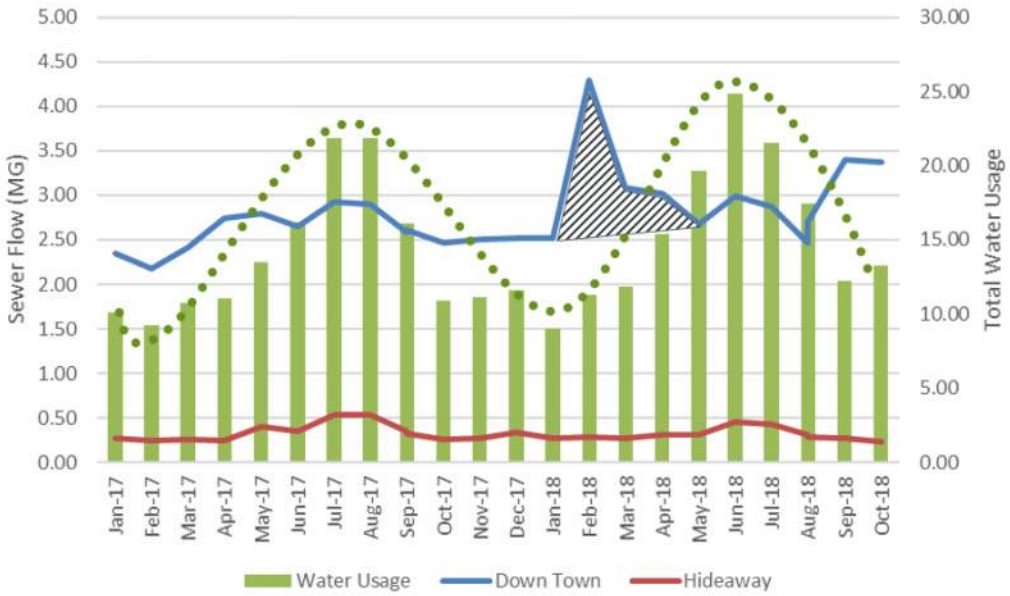


Table 2-5

Comparison of Billed vs Pumped Sewerage (kgal) by Calendar Year (CY)

Year	Total Pumped	Total Billed	Delta %
CY 2017	35,120	36,869	-5%
CY 2018	39,683	38,637	103%
Delta %	**11%**	**5%**	**--**

Updated table showing 2019 data. The pump station flow increased by 11% from 2017 to 2018 while usage went up 10%, this is reflected in the chart and is likely associated with Infiltration and Inflow. In 2019 pump station flow went up again by 2.4% however, usage went down by almost a percentage point. This indicates a potential increase in Infiltration and Inflow in 2019.

Water usage shows the expected seasonal increases peaking in July for both years. The Hideaway pump station flows are generally constant, with subtle increases coincident with the water use peaks. The difference in peak magnitude between water and the Hideaway Pump Station support the statement that not all drinking water contributes to sewer flow.

The Downtown pump station also experienced coincident increases for July but more importantly, there was a significant peak in February 2018, the second lowest month for water use. Pump station flows do not return to normal levels until May, this supports the statement that not all sewerage is related to drinking water.

One possible reason for the difference in response between the two sewer pump stations is that Hideaway is served by low pressure sewers (grinder pumps) while the Downtown area is served by gravity sewers. Low pressure sewers by their nature do not experience I&I because they operate under pressure. Gravity sewers, however, generally experience some level of I&I. For Bourne this is evidenced by the shaded area in Figure 2-2.

Section 3 Financial Evaluation – Revenue Needs

The first step of a water or sewer rate evaluation is to determine the future revenue needs (expenses) for the analysis period. These expenses consist of three primary categories: operating, capital and debt, each described in more detail below. The figures and schedules shown in this section were taken from the spreadsheet model developed for this project. The model is based in Microsoft Excel and consists of numerous modules or 'tabs' which are referred to in the text. The actual expenses, remaining debt service obligations and starting retained earnings balances were provided by the Town.

3.1 Operating Expenses

Operating expenses consist of the day to day cost of maintaining the sewer system, including labor, expenses and supplies. The entire chart of accounts (all line items) are entered into model, sorted by order of largest to smallest then reviewed for trends.

Schedule 3.2 shows the trending analysis, for brevity only the top 10 expenses are shown.

Schedule 3.2: Historic Trending Analysis

Category	Average Budget	Average Expended	Average Turnback	Trend %	Trends	Escalator
Wareham - Operating	$350,500	$272,229	20%	-5%		2.5%
Wareham - Capital	$188,478	$188,478	0%	0%		0.0%
Transfer Out (Indirects)		$129,546		-1%		2.5%
Transfer Out (Reserve)		$100,000				--
Purchase of Services	$30,833	$28,086	-12%	202%		2.5%
Personnel Services	$62,987	$66,423	-7%	14%		2.5%
Personnel Services	$53,430	$52,706	0%	2%		2.5%
Rate Funded Capital	$70,000	$32,126	51%	35%		2.5%
Existing Debt Service	$25,163	$26,453	0%	66%		2.5%
Purchase of Services	$33,333	$17,952	42%	472%		2.5%

The escalation factors shown above are based upon a review of the last five years (FY15-FY19) budget to actual reports. The average turnback represents the average percent change between the budget and actual expenses for each line item. The turn backs are not factored into the projections but instead serve as an additional measure of conservatism. The budgeted values are used for FY20 and expenses for FY21 on are estimated by applying the escalators from above to the previous value for each year.

Schedule 3.2 shows that the most significant expense item are the charges levied by the Town of Wareham in accordance with the provisions of the existing IMA. The actual trend for the operating cost line item (SERVICES – WASTE REMOVAL AND DISP) indicates that this item has trended downward by an average of 5% over the analysis period. Due to June 11, 2019 settlement agreement however, the projected starting value of $400,000 per year with an annual escalation rate of 2.5% was used.

Other noteworthy line items are the laborers salaries which have increased by 14% over the last five years (this may be the result of adding staff) and the transfer to General Fund which is not budgeted and thus was projected based upon the expended value from the FY20 budget to actual report. Also, starting in FY21, $40,000 was added to the line items

for administrator salaries and indirect costs to reflect a portion of the Town Engineer salary to reflect work on sewer related items which is discussed in Section 5.

3.2 Capital Expenses

Capital expenses are associated with system improvements, expansions or other capital purchases. Figure 3-1 shows the projects from the CIP tab of the model, the projects and costs were taken directly from the Town's FY20 Capital Improvement Plan.

Figure 3-1
Capital Improvements

Capital Improvement Planner

Description	Funding source	Interest rate	Estimated Cost
Safety Equipment Upgrades [Exhaust systems/filter/vent]	Rate	--	$65,000
Pumps and Alarm Panels	Rate	--	$65,000
Repair or Replace Sewer Covers	Rate	--	$15,000
Inspection Camera System	Rate	--	$15,000
Replace Grates in Wet Well	Rate	--	$100,000
Replace M-9	Rate	--	$65,000
Replace M-7	Rate	--	$25,000
Study of Sewer Line Repirs and Replacement	Rate	--	$40,000
Treatment Plant Enterprise Share	Debt	2.0%	$2,400,000
			$2,790,000

The funding source is either rate funded (also called operating capital) or debt. Cost year represents the year that the budget was developed and is used to escalate costs. Impact year is the year that the cost hits the enterprise account, which for debt funded projects occurs at the end of the construction period. A 5% annual construction cost escalator is applied to all projects. The most significant capital project is the new wastewater treatment plant, the CIP reflects the enterprise funds share of the future debt service which is described more fully below.

3.2.1 Costs Associated with New Treatment Plant

Costs associated with the new treatment plant consist of operating costs and debt service. The debt service is funded by a variety of sources including the sewer enterprise fund. The breakdown is shown in Table 3-1, the impact year is assumed to be FY21. The annual operating costs are estimated to be $250,000 annually. All WWTP costs were provided by the Wastewater Facility Design and Building Committee.

Table 3-1

Wastewater Treatment Plant Funding Summary

Project Element	Value
Estimated Project Cost	$9,693,000
Mass Works Grant	-$1,500,000
EDA Grant	-$2,335,850
Total to be funded by debt	**$5,857,150**

Debt Funding Sources	Value
State Revolving Fund Loan (General Fund)	$2,260,410
State Revolving Fund Loan (Sewer Enterprise)	$2,400,000
General Fund Borrowing	$1,196,740
Total debt funding	**$5,857,150**

Typically, the operating and capital costs associated with the new plant would be included in the various line items shown in the model dashboard, however, given that the cost impact of the new plant is a key concern, these costs are broken out and summed separately.

Reviewing the increases of total expenses shown at the bottom of Schedule 1.1, the increase from FY19 to FY20 is partly due to the fact that the FY19 values are based upon actuals, while FY20 are based upon budgeted values. The more important factor is the increase from FY20 to FY21, which is when the costs for the new wastewater plant begin to impact the enterprise fund.

Schedule 1.1: Expenses

	Historic Actuals	Actual Values	Actual Values	Budget Values	Projected Values	
	FY17	FY18	FY19	FY20	FY21	FY22
Operating Expenses						
Personnel Services	$173,638	$160,614	$170,024	$192,538	$237,352	$243,285
Purchase of Services	$76,163	$23,626	$145,524	$157,696	$161,639	$165,680
Supplies	$12,602	$13,018	$12,661	$20,321	$20,829	$21,349
Wareham - Operating	$250,000	$294,997	$213,912	$410,000	$420,250	$430,756
Wareham - Capital	$188,478	$188,478	$188,478	$188,478	$188,478	$188,478
Transfer Out (Indirects)	$126,705	$124,404	$128,607	$138,077	$181,529	$186,067
Transfer Out (Reserve)	$0	$59,445	$0	$0	$0	$0
Subtotal	**$827,585**	**$864,583**	**$859,206**	**$1,107,110**	**$1,210,075**	**$1,235,615**
Delta Previous		4.5%		28.9%	9.3%	2.1%
CIP/ Debt						
Rate Funded Capital	$10,927	$47,939	$50,808	$105,000	$240,000	$125,000
New Debt Service	$0	$0	$0	$0	$0	$0
Existing Debt Service	$17,270	$45,522	$43,500	$22,000	$21,000	$0
Subtotal	**$28,197**	**$93,461**	**$94,308**	**$127,000**	**$261,000**	**$125,000**
Delta previous		231%		35%	106%	-52%
New WWTP						
Operating Expenses	$0	$0	$0	$0		$256,250
Debt Service	$0	$0	$0	$0	$161,821	$161,821
Subtotal	**$0**	**$0**	**$0**	**$0**	**$161,821**	**$418,071**
TOTAL EXPENSES	**$855,782**	**$958,044**	**$953,514**	**$1,234,110**	**$1,632,896**	**$1,778,686**

See handout page 4 for updated expense data.

Section 4 Rates and Revenue

The next step of the financial evaluation is to estimate revenues from the existing rate and fee structure. The results are used in the rate evaluation found in Section 4.3.

Sewer enterprise revenue consists of rate revenue, and non-rate revenue. Rate revenue is the direct result of customer payment of sewer bills and currently represents 90% of Bourne's total sewer revenue. Non-Rate Revenue consists of liens and penalties associated with non-payment of sewer bills (projected as a percent of revenue), transfers from the general fund (which were not projected forward) and fees associated with development.

The methodology and data used for projecting each element of future revenue are described below. The Town's operating assumption and basis for approval of the new treatment plant was that the revenue from connection fees and future usage associated with new commercial customers would recuperate the capital and operating costs, so determining revenue from development is an important concern.

4.1 Revenue Associated with Development

Development based revenue consists of the fees and charges paid by developers prior to construction as well as the future rate revenue associated with completed projects. Projecting these revenues requires numerous assumptions and estimations in terms of timing and ultimate water usage.

Future revenue from development fees depends on the fee structure, the projected amount of development and the timing or pace of development. For the purposes of this evaluation, development or growth associated with projects currently in the capacity allocation process are categorized as 'Known'[2] development and development estimated from vacant parcels is described as 'Projected'. Estimating future revenue from development requires also estimating the timeline for development

4.1.1 Development Fee Structure

At the January 17, 2006 Sewer Commission Meeting, the commission approved the following fees:

- Design Review and Construction Inspection Fee*: $1,500 (commercial only)
- Commercial Sewer Permit Fee: $150 + $0.010 per square foot of building floor space
- Sewer Connection Fee*: Annual sewer fee per unit x the number of business units. (commercial only)
- Residential Sewer Permit Fee: $100 + $100 for each additional unit.
- Sewer System Development Charge*: $5,769.678 per acre plus $36.703 per foot of frontage.

* Indicates that the fee did not exist prior to this meeting.

[2] Some of these projects have since become active and technically are no longer in the 'pipeline', they are noted as such but remain included for continuity.

In 2017, the Capacity Allocation Policy discussed in Section 2 was adopted. The fees associated with the new allocation process are as follows:

Application Fee (one-time): $1,500

Preliminary Allocation Fee (one-time): $5,000 plus $1 per projected flow

Operational Allocation Fees: Number of units x current annual base rate sewer fee.

4.1.1.1 Fee Revenue from Known Development

The projects currently in the allocation process are shown in Table 4-1, for each project, the existing step in the process is given as well as an estimated date for connection (commencement of discharge).

Table 4-1
Known Development Characteristics and Assumed Timeline

Project/Owner	No. Units[1]	Allocated Flow [2] (gpd)	Est. Total Annual Flow[3] (kgal)	Est. Overage[4] (kgal)	Allocation Step	Flow Year[5]
Hampton Inn	100	15,243	7,622	-	Operational	2020
100 Main	121	27,080	13,540	-	Preliminary	2022
Calamar/ 25 Perry	120	16,800	8,400	-	Preliminary	2022
GENCON/Robert Gendron	109	17,715	8,858	-	Preliminary	2022
Veterinary Clinic	1		-	-	Operational	2020
Blended Berries	1	440	220	-	Operational	2020
Mahoney's on Main	1	3,465	1,733	-	Operational	2020
Oak Bay Brewery	1	1,661	6,500	-	Application	2023
85-93 Main	1	13,000	41,202	-	Application	2023
Bourne Scenic Park	22	17,700	7,965	1,917	None	2023
Total	**477**	**36,266**	**57,620**	**1,917**		

Notes:
1. Projects with 1 unit were assumed
2. Assumed to be based upon Title V
3. Assumed to be 50% of Title V
4. Based upon number of units and estimated annual flow
5. Projects shown starting in 2020 are reportedly connected to the system, these projects remain in the table to serve as placeholders for the wastewater volume until actual usage data is received.

See handout page 8 for more updated information.

Table 4-2
Projected Revenue from Known Developments –2006 Fee Structure

Project/Owner	Design, Review and Construction	Commercial Sewer Permit Fee	Sewer Connection Fee	System Development Charge	TOTAL
Hampton Inn*					
100 Main	$1,500	$1,509	$98,252	$9,875	**$111,136**
Calamar/ 25 Perry	$1,500	$48,763	$97,440	$70,922	**$218,625**
GENCON/Robert Gendron	$1,500	$100	$116,928	$31,450	**$149,978**
Veterinary Clinic*					
Blended Berries*					
Mahoney's on Main*					
Oak Bay Brewery	$1,500	$150	$11,368	$8,075	**$21,093**
85-93 Main	$1,500	$9,210	$86,072	$20,810	**$117,592**
Bourne Scenic Park	$1,500	No Data	$19,172	$40,000	**$59,172**
Total	**$4,500**	**$9,360**	**$116,612**	**$68,885**	**$197,857**

Projects indicated with an asterisk however were reported to have begun active discharge, prior to the Town's decision and thus no additional fees will be assessed.

Table 4-3
Projected Revenue from Known Developments –2017 Allocation Fees

Project/Owner	Application Fee	Preliminary Allocation Fee	Operational Allocation Fee	TOTAL
Hampton Inn*				
100 Main	$1,500	$33,580	$102,366	**$137,446**
Calamar/ 25 Perry	$1,500	$23,300	$101,520	**$126,320**
GENCON/Robert Gendron	$1,500	$24,250	$121,824	**$147,574**
Veterinary Clinic*				
Blended Berries*				
Mahoney's on Main*				
Oak Bay Brewery	$1,500	$21,743	$104,904	**$128,147**
85-93 Main	$1,500	$33,580	$102,366	**$137,446**
Bourne Scenic Park	$1,500	$24,200	$19,172	**$44,872**
Total	**$4,500**	**$79,523**	**$226,442**	**$310,465**

See note on next page.

Table 4-4
Total projected revenue –Total Fees, Known Developments

Project/Owner	2006 Fees	2017 Fees	GRAND TOTAL

Hampton Inn*			
100 Main	$111,136	$137,446	**$248,582**
Calamar/ 25 Perry	$218,625	$126,320	**$344,945**
GENCON/Robert Gendron	$149,978	$147,574	**$297,552**
Veterinary Clinic*			
Blended Berries*			
Mahoney's on Main*			
Oak Bay Brewery	$21,093	$128,147	**$149,240**
85-93 Main	$117,592	$137,446	**$255,038**
Bourne Scenic Park	$	$44,872	**$44,872**
Total	**$138,685**	**$310,465**	**$449,150**

See handout page 8 for updated/revised development fee information.

4.1.1.2 Projected Fee Revenue from Projected Development

To estimate future development, the parcel database was analyzed and 27 parcels not already in the allocation process were identified for potential development based upon land use codes. Vacant residential parcels were not included as they reportedly do not meet zoning requirements.

Table 4-5
Projected Development Parcels

Address	Land Use Code	Land Use Description	Est. Demand (GPD)	Est. Units
105 MAIN ST	3900	Developable Commercial Land	1,699	14
11 MAIN ST	3900	Developable Commercial Land	1,015	9
129-137 MAIN ST	3900	Developable Commercial Land	1,346	11
2 CANAL VIEW RD	3900	Developable Commercial Land	1,411	12
2 KENDALL RAE PL	3900	Developable Commercial Land	17,729	144
69-73 MAIN ST	3900	Developable Commercial Land	1,668	14
29 COHASSET AVE	3920	Undevelopable Commercial Land	736	6
32-A COHASSET AVE	3920	Undevelopable Commercial Land	501	5
6 WASHINGTON AVE	3920	Undevelopable Commercial Land	684	6
8 TAYLOR RD	9010	-	9,061	74
0 BEACH AREA	9300	Vacant, Selectmen or City Council (Municipal)	1,468	12
20 MAIN ST	9300	Vacant, Selectmen or City Council (Municipal)	954	8

Address	Land Use Code	Land Use Description	Est. Demand (GPD)	Est. Units
22 MAIN ST	9300	Vacant, Selectmen or City Council (Municipal)	645	6
229 MAIN ST	9300	Vacant, Selectmen or City Council (Municipal)	4,252	35
90 MAIN ST	9300	Vacant, Selectmen or City Council (Municipal)	23,392	190
Total			**5,735**	**54**

Notes

1. Parcels identified as 'undevelopable' were included as providing sewer service may make them developable. No further investigation into suitability was conducted.
2. Commercial sewer demand estimated at 50 gallons per day per 1,000 square feet of estimated floor area is based upon a 0.13 Floor Area Ratio (FAR).
3. Residential sewer demand estimated at 47 gallons per day per person[3] and a household size of three people.
4. No definition of billable unit exists, units based on the existing per unit flow allowance of 45,000 gallons per year.

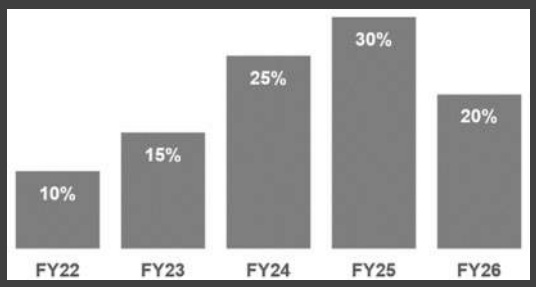
4.1.1.3 Assumed Development Timeframe

In order to include the revenue and additional units generated by development, the following development timeline was assumed. The steps refer to the allocation process steps. This timeline reflects a general slowing of the economy.

Table 4-6
Assumed Development Timeframe

Year	Step 1/2	Step 3
FY21	5%	-
FY22	30%	5%
FY23	30%	30%
FY24	20%	30%
FY25	15%	20%
FY26	-	15%
Total	**100%**	**100%**

Revised assumed development timeline from handout page 10.



The percentages shown in Table 4-6 were used to apply [illegible] and flows.

[3] From the 2018 Annual Statistical Report submitted by the Buzzards Bay Water District.

4.2 Projected Usage and Units

The revenue generated from sewer rates varies based upon the number of billable units and the volume of water used by those units as well as the rate structure itself. The rate model calculates rate revenue based upon projected water use and estimated number of additional customers.

4.2.1 Projected Billable Units

Schedule 2.1 shows the contribution of development in terms of additional units, which increase base fee revenues. The additional units are based upon the data from Table 4-1 and Table 4-5 distributed according to the assumed timing shown in Table 4-5.

Schedule 2.1 - Number of Units

Category	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Total Units- No Development	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092
Additonal Units - Known Development		102	332	333	477	477	477	477	477	477	477
Additional Units - Projected Development			34	233	432	565	665	665	665	665	665
Total Units	1,092	1,194	1,458	1,658	2,001	2,134	2,234	2,234	2,234	2,234	2,234

Revised.

Schedule 2.1 - Number of Units

Category	Type	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	FY30
Total Units- No Development	Annual	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092	1,092
Additonal Units - Known Development	Annual		103	227	229	480	480	480	480	480	480	480	480
Additional Units - Projected Development	Annual			0	41	102	203	324	405	405	405	405	405
Total Units		1,092	1,195	1,319	1,362	1,674	1,775	1,896	1,977	1,977	1,977	1,977	1,977

Schedule 2.2 shows the projected overage, note that there is **no additional projected overage** (based upon estimated actual flows). The existing usage has been increasing by 3% per year, a more conservative 2% was used for projections.

Schedule 2.2 - Water Usage (Kgal)

Block	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Overage: Existing Users	10,875	10,875	10,875	10,875	10,875	10,875	10,875	10,875	10,875	10,875	10,875
Estimated Overage - Known Development		551	551	779	779	779	779	779	779	779	779
Estimated Overage - Projected Development			-	-	-	-	-	-	-	-	-
-	10,875	11,427	11,427	11,655	11,655	11,655	11,655	11,655	11,655	11,655	11,655

Revised to reflect additional (FY19) usage data.

Schedule 2.2 - Water Usage (Kgal)

Block	Type	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Overage: Existing Users		12,221	12,221	12,221	12,221	12,221	12,221	12,221	12,221	12,221	12,221	12,221
Estimated Overage - Known Development	Overage		-	3,573	5,715	16,482	16,482	16,482	16,482	16,482	16,482	16,482
Estimated Overage - Projected Development	Overage			-	-	-	-	-	-	-	-	-
-		12,221	12,221	15,794	17,936	28,703	28,703	28,703	28,703	28,703	28,703	28,703

4.3 Sewer Rate Evaluation

In order to evaluate the efficacy of a given rate structure, revenues are projected for the existing rate structure based upon the projected usage and connected units and compared against the revenue needs discussed in Section 3. If the retained earnings (reserves) are projected to fall below the 20% target minimum, a percentage increase is applied to the

rates. Once the rates are adjusted so that the target reserves are met, cost impacts are calculated and evaluated.

4.3.1 Evaluating Customer Rate Impacts

The Town's stated goal for the new WWTP was to not impact existing customers. To quantify this, the rate increases from FY17 to FY19 were used as a benchmark. Schedule 4.3A shows the increase in base fee based upon the average increase between FY17 and FY19 of $37 per year. The projected customer cost for a typical residential customer (3-person household using 50 gallons per day each) is also shown. These costs are used to evaluate the various scenarios.

Schedule 4.3 A- Existing Rate Structure - Status Quo Rate Increases

Description	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Base Fee	$752	$776	$812	$879	$919	$959	$999	$1,039	$1,079	$1,119	$1,159	$1,199	$1,239
Increase in Base Fee ($)		$24	$36	$67	$40	$40	$40	$40	$40	$40	$40	$40	$40
Increase in Base Fee ($)				8%	5%	4%	4%	4%	4%	4%	4%	3%	
Annual Cost - Typical Res.	$752	$776	$826	$977	$919	$959	$999	$1,039	$1,079	$1,119	$1,159	$1,199	$1,239
Annual Cost Increase		$24	$50	$151	-$58	$40	$40	$40	$40	$40	$40	$40	$40

4.3.2 Projected Revenue - Existing Rates with Projected Development

Schedule 5.7 shows the revenue resulting from applying the projected number of accounts and usage to the existing rates (with no increases) as well as adding the projected fee revenue from both known and projected developments. For purposes of analysis each revenue element is broken out by existing users, known development and projected development.

Schedule 5.7 - Calculated Revenue: Existing Rates - Full Development

Category	Type	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Base Fee: Existing Users	Base Fee	$ 959,868	$ 959,868	$ 959,868	$ 959,868	$ 959,868	$ 959,868	$ 959,868	$ 959,868	$ 959,868	$ 959,868
Base Fee: Known Development	Base Fee	*$ 89,658*	*$ 291,828*	*$ 292,707*	*$ 419,283*	*$ 419,283*	*$ 419,283*	*$ 419,283*	*$ 419,283*	*$ 419,283*	*$ 419,283*
Base Fee: Projected Development	*Base Fee*	*$ -*	*$ 29,886*	*$ 204,807*	*$ 379,728*	*$ 496,635*	*$ 584,535*	*$ 584,535*	*$ 584,535*	*$ 584,535*	*$ 584,535*
Overage: Existing Users	Overage	$ 108,754	$ 108,754	$ 108,754	$ 108,754	$ 108,754	$ 108,754	$ 108,754	$ 108,754	$ 108,754	$ 108,754
Overage: Known Development	Overage	$ 5,514	$ 5,514	$ 7,792	$ 7,792	$ 7,792	$ 7,792	$ 7,792	$ 7,792	$ 7,792	$ 7,792
Overage: Projected Development	Overage	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Allocation Fees: Known Development	Alloc	$ -	$ 205,184	$ 9,057	$ 172,724	$ -	$ -	$ -	$ -	$ -	$ -
Allocation Fees: Projected Development	Alloc	$ -	$ 8,156	$ 76,981	$ 217,205	$ 200,893	$ 136,648	$ 84,135			
System Development Charge: Known	Development	$ -	$ 29,258	$ 8,075	$ 74,248	$ -	$ -	$ -	$ -	$ -	$ -
System Development Charge: Projected	Development		$ -	$ 16,880	$ 101,282	$ 101,282	$ 67,521	$ 50,641	$ -		
Total		**$ 1,163,794**	**$ 1,638,447**	**$ 1,684,921**	**$ 2,440,884**	**$ 2,294,507**	**$ 2,284,401**	**$ 2,215,008**	**$ 2,080,232**	**$ 2,080,232**	**$ 2,080,232**

Revised to reflect revised usage projections, decreased development and the FY21 rates.

Schedule 5.7 - Calculated Revenue: Existing Rate Structure - 50% Projected Dev.

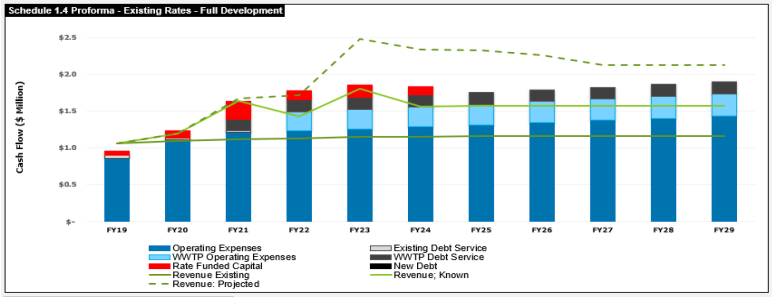
Category	Type	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Base Fee: Existing Users	Base Fee	$ 959,868	$ 1,003,548	$ 1,047,228	$ 1,090,908	$ 1,134,588	$ 1,178,268	$ 1,221,948	$ 1,265,628	$ 1,309,308	$ 1,352,988
Base Fee: Known Development	Base Fee	$ 90,537	$ 208,613	$ 219,611	$ 479,520	$ 498,720	$ 517,920	$ 537,120	$ 556,320	$ 575,520	$ 594,720
Base Fee: Projected Development	Base Fee	$ -	$ -	$ 19,660	$ 50,949	$ 105,459	$ 174,798	$ 226,598	$ 234,698	$ 242,798	$ 250,898
Overage: Existing Users	Overage	$ 122,210	$ 122,210	$ 122,210	$ 122,210	$ 122,210	$ 122,210	$ 122,210	$ 122,210	$ 122,210	$ 122,210
Overage: Known Development	Overage	$ -	$ 35,728	$ 57,150	$ 164,820	$ 164,820	$ 164,820	$ 164,820	$ 164,820	$ 164,820	$ 164,820
Overage: Projected Development	Overage	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Development Charges- Known	Developmen	$ -	$ 211,370	$ 133,767	$ 235,827	$ -	$ -	$ -	$ -	$ -	$ -
Development Charges- Projected	Development			$ 22,947	$ 34,421	$ 57,368	$ 68,842	$ 45,895	$ -		
Total		**$ 1,172,615**	**$ 1,581,469**	**$ 1,622,573**	**$ 2,178,655**	**$ 2,083,165**	**$ 2,226,858**	**$ 2,318,590**	**$ 2,343,675**	**$ 2,414,655**	**$ 2,485,635**

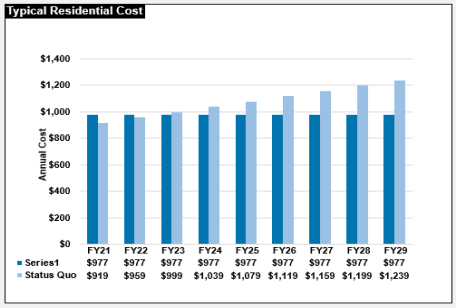
4.3.3 Proforma - Existing Rates with Projected Development

The proforma compares the projected revenue to the revenue needs developed in Section 3 and estimates the retained earnings for each year of the analysis period. The proforma is shown in Schedule 1.4.

Schedule 1.4 Proforma - Existing Rates - Full Development

		FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Revenue	*Rate Increase*													
Base Fee		$ 931,500	$ 909,765	$ 964,597	$ 997,050	$ 1,217,503	$ 1,384,513	$ 1,670,935	$ 1,781,997	$ 1,865,502	$ 1,865,502	$ 1,865,502	$ 1,865,502	$ 1,865,502
Overage					$ 108,554	$ 108,554	$ 110,719	$ 110,719	$ 110,719	$ 110,719	$ 110,719	$ 110,719	$ 110,719	$ 110,719
Allocation Fees					$ -	$ 213,340	$ 86,038	$ 389,929	$ 200,893	$ 136,648	$ 84,135	$ -	$ -	$ -
System Development					$ -	$ 29,258	$ 24,955	$ 175,530	$ 101,282	$ 67,521	$ 50,641	$ -	$ -	$ -
Non Rate				$ 65,161	$ 85,568	$ 100,999	$ 112,842	$ 132,891	$ 140,665	$ 146,511	$ 146,511	$ 146,511	$ 146,511	$ 146,511
Total Revenue		$ 931,500	$ 909,765	$ 1,029,758	$ 1,191,172	$ 1,669,654	$ 1,719,066	$ 2,480,004	$ 2,335,556	$ 2,326,900	$ 2,257,507	$ 2,122,731	$ 2,122,731	$ 2,122,731
Revenue Summary														
Existing		$ 931,821	$ 955,370	$ 1,060,618	$ 1,100,758	$ 1,116,190	$ 1,128,032	$ 1,148,082	$ 1,155,856	$ 1,161,702	$ 1,161,702	$ 1,161,702	$ 1,161,702	$ 1,161,702
Known					$ 90,413	$ 516,916	$ 302,606	$ 652,693	$ 405,721	$ 405,721	$ 405,721	$ 405,721	$ 405,721	$ 405,721
Projected					$ -	$ 36,548	$ 288,428	$ 679,229	$ 773,979	$ 759,477	$ 690,084	$ 555,308	$ 555,308	$ 555,308
					$ 1,191,172	$ 1,669,654	$ 1,719,066	$ 2,480,004	$ 2,335,556	$ 2,326,900	$ 2,257,507	$ 2,122,731	$ 2,122,731	$ 2,122,731
					$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Net Revenue (Revenue-Expense)		$ 75,719	$ (48,278)	$ 76,244	$ (42,938)	$ 36,758	$ (59,620)	$ 623,733	$ 500,886	$ 572,996	$ 468,512	$ 297,769	$ 280,903	$ 223,114
Retained Earnings Balance		$731,330	$466,478	$542,722	$499,784	$536,542	$476,922	$1,100,656	$1,601,542	$2,174,538	$2,643,050	$2,940,819	$3,221,722	$3,424,837
Retained Earnings as Percent of Operating Expense		88%	54%	63%	45%	44%	39%	87%	124%	165%	197%	214%	228%	239%





Typical Residential Cost

	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	TOTAL
Annual Cost	$826	$977	$977	$977	$977	$977	$977	$977	$977	$977	$977	$9,619

See handout page 13 for updated/revised proforma

The top of the proforma summarizes the revenue, below the revenue summary, the net revenue, projected retained earnings is calculated. In the chart on the left, the columns represent the various expense categories, the dark green lines represents the projected revenue from the existing users, while the light green and dashed green line represent total revenue (development feels plus additional user rate revenue) for known development and projected development respectively. To the right of the proforma chart the cost for a typical residential customer (three-person household using 50 gallons per person per day).

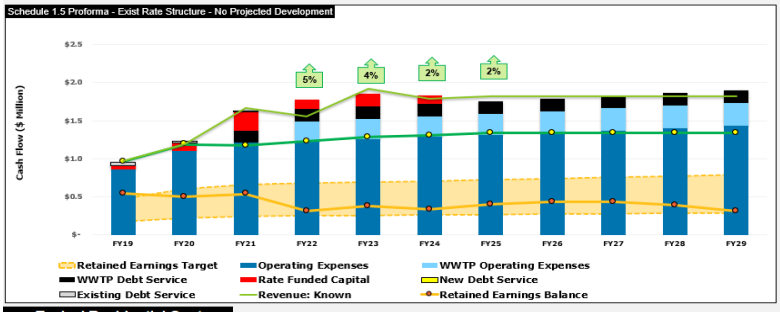
The proforma shows that starting in FY20, revenues are about equal with the expenses, in FY21 the WWTP expenses hit the enterprise but are offset by the fees from known developments (solid light green line). As of FY23 however the expenses are only met if **all development revenue** is included. The customer impacts are acceptable since the rates do not increase at all, however the reliance on projected development **leaves the Town vulnerable if there were a decrease in development.** To quantify this vulnerability, the impact on rates with no projected development revenue was determined. This alternative technically satisfies the project goal in terms of customer impact as the existing rates do not increase.

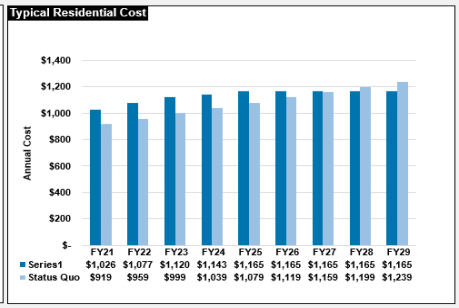
4.3.4 Projected Revenue – Existing Rate Structure with no projected development

Schedule 1.5 presents the same proforma as Schedule 1.4 with the revenue associated with **projected development removed**. As shown below, a number of **rate increases** were required to maintain the retained earnings target, the rates increases are shown just below the Year designation in the tabular portion and again in the proforma chart. The projected rates are shown in Schedule 4.4.

Schedule 1.5 Proforma - Exist Rate Structure - No Projected Development

		FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Revenue	*Rate Increase*					5%	5%	4%	2%	2%				
Base Fee		$ 780,125	$ 804,285	$ 964,597	$ 997,050	$ 1,248,567	$ 1,311,916	$ 1,502,268	$ 1,532,313	$ 1,562,959	$ 1,562,959	$ 1,562,959	$ 1,562,959	$ 1,562,959
Overage		$ 350,256	$ 367,052		$ 108,554	$ 113,982	$ 122,067	$ 126,950	$ 129,489	$ 132,079	$ 132,079	$ 132,079	$ 132,079	$ 132,079
Allocation Fees		$ -	$ -	$ -	$ -	$ 213,340	$ 86,038	$ 389,929	$ 200,893	$ 136,648	$ 84,135	$ -	$ -	$ -
Non-Rate Revenue		$ 87,302	$ 90,169	$ -	$ 85,568	$ 103,554	$ 108,554	$ 122,221	$ 124,502	$ 126,828	$ 126,828	$ 126,828	$ 126,828	$ 126,828
Total Revenue		**$ 1,130,380**	**$ 1,171,337**	**$ 964,597**	**$ 1,191,172**	**$ 1,679,443**	**$ 1,628,575**	**$ 2,141,368**	**$ 1,987,197**	**$ 1,958,514**	**$ 1,906,001**	**$ 1,821,866**	**$ 1,821,866**	**$ 1,821,866**
Revenue Summary														
Existing		$ 1,130,380	$ 1,171,337	$ 964,597	$ 1,191,172	$ 1,169,504	$ 1,227,802	$ 1,286,238	$ 1,311,800	$ 1,337,872	$ 1,337,872	$ 1,337,872	$ 1,337,872	$ 1,337,872
Projected						$ 501,783	$ 323,792	$ 637,924	$ 474,504	$ 483,994	$ 483,994	$ 483,994	$ 483,994	$ 483,994
						$ 1,671,287								
Net Revenue (Revenue-Expense)		$ 274,599	$ 213,293	$ 11,084	$ (42,938)	$ 38,391	$ (227,092)	$ 67,892	$ (48,366)	$ 67,962	$ 32,872	$ (3,096)	$ (39,962)	$ (77,750)
Retained Earnings Balance		$731,330	$466,478	$542,722	$499,784	$538,175	$311,083	$378,975	$330,609	$398,570	$431,442	$428,347	$388,385	$310,634
Retained Earnings as Percent of Operating Expense		88%	54%	63%	45%	44%	25%	30%	26%	30%	32%	31%	28%	22%





Typical Residential Cost

	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29	TOTAL
Annual Cost	$ 826	$ 977	$1,026	$1,077	$1,120	$1,143	$1,165	$1,165	$1,165	$1,165	$1,165	$10,005

As a result of increasing rates, the estimated residential costs exceed the status quo, thus this alternative fails to meet the project goal and alternative rate structures were developed and analyzed.

Schedule 4.4 - Exist Rate Structure - No Projected Development

Description	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Base Fee	$923	$969	$1,008	$1,028	$1,049	$1,049	$1,049	$1,049	$1,049
Overage	$0.0105	$0.0110	$0.0115	$0.0117	$0.0119	$0.0119	$0.0119	$0.0119	$0.0119

This scenario modified to include NO development (the above scenario includes known development), plus the previously mentioned revisions. See handout page 16 for updated/revised information

4.3.5 Projected Revenue – Modified Rate Structures

Alternative rate structures are generated in a step wise, incremental fashion starting with the existing rate structure. The first alternative was to maintain a fixed portion and a usage portion with no usage included in the base fee (no overage, all usage billed). Several combinations of base and usage fees were modelled but were not successful in raising needed revenue without unduly impacting residential users.

The next two most common rate structure modifications are to increase the base fee by service (water meter) size, and tiered rates. Customer meter data was not available, so only tiered rates were evaluated.

4.3.5.1 Tiered Rates

The current overage fee is a flat rate where any additional usage over 45,000 gallons will be charged at one cent per gallon with no limits. Under a tiered rate structure, the cost per unit volume (1,000 gallons) of water usage increases in incrementally. This is same as the drinking water rate structure where source conservation is often an overriding concern but in the case of Bourne, sewer conservation measures are necessary due to a finite capacity.

To determine the efficacy of a tiered rate structure, the following steps are completed:

1. Separate usage data into customer types to determine the residential fraction
2. Develop usage histograms for residential and non-residential users
3. Develop the volumetric tier component based upon the usage histograms
4. Break existing usage into the proposed tiers as model input
5. Develop starting point price for Tier 1 and cost ratios for Tiers 2 and 3
6. Review proforma while adjusting rates to meet revenue requirements
7. Review customer cost impacts and revise tier cost ratio as required
8. Iterate as required.

4.3.5.2 Usage Data Broken Out by User Type

A tiered rate structure is defined by its two variables; the volume of each usage tier and the price increment for each tier. There is this little 'rule of thumb' or guidance for tier setting beyond the suggestion that first tier capture roughly half of the users. Beyond that the best practice is to evaluate the distribution of existing water use.

To separate usage by user class, a parcel database with land use codes was obtained from Mass GIS and the sewer customer addresses were used to match metered usage to customer parcels. There are 42 different land use codes in the parcel database, 12 of which are residential. Table 4-7 shows the proportion of residential to non-residential users in terms of usage, accounts and units.

Table 4-7

2018 Residential as Percent of Total Use and Accounts

Land Use Code	Total Usage (KGal)	% of Total	Total Accounts	Total Units
Residential	20,791	54%	586	775
Non-Residential	17,846	46%	118	317
Total	**38,637**	**100%**	**704**	**1,092**

Usage between residential and non-residential is split nearly 50-50, which underlays the focus on commercial development in the sewer service area. However, the total number of accounts and units is heavily skewed towards residential. To understand the usage distribution across all user types (residential and non-residential), Table 4-8 summarizes usage and account data for the top ten land use codes in terms of usage, which comprise 80% of the total usage.

Table 4-8

Top Ten Water Use by Land Use Code

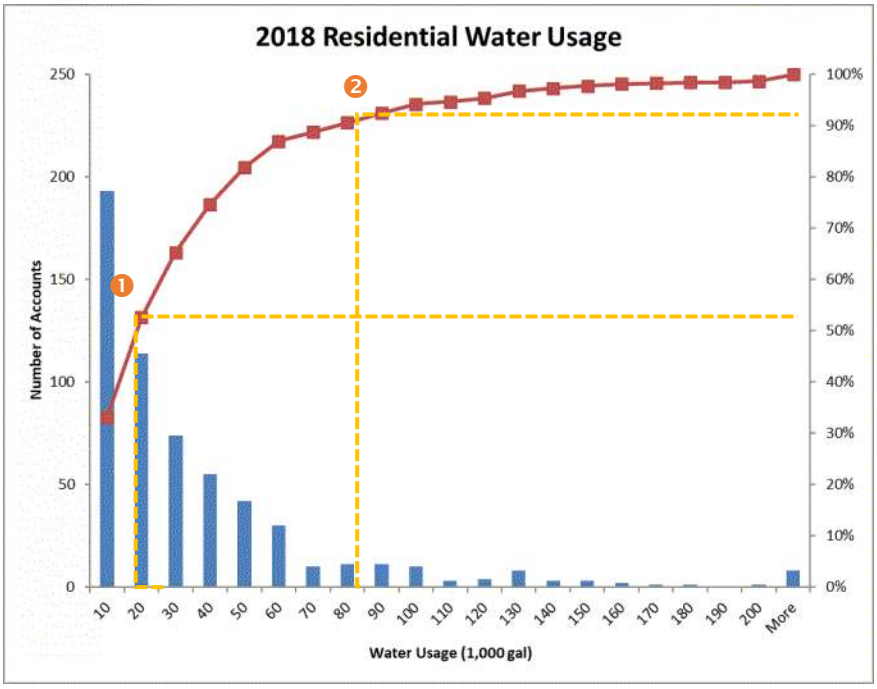
Land Use Code	Total Usage (gal)	% of Total	No. Accounts	No. Units
Single Family Residential	8,627	22%	249	257
Mixed Use (Primarily Commercial, some Residential)	5,821	15%	26	68
Developable Commercial Land	3,348	9%	1	106
Residential Condo	2,933	8%	151	153
Apartments with More than Eight Units	2,260	6%	4	106
Apartments with Four to Eight Units	2,221	6%	14	51
Residential Condominium	1,910	5%	132	134
Restaurants/Food Service	1,323	3%	6	6
Two-Family Residential	1,214	3%	17	35
Business Condo	1,062	3%	4	30

4.3.5.3 Analyzing Water Use Distribution Patterns

Histograms were developed for residential and non-residential usage for the most recent year (2018). Figure 4-1 shows the distribution of residential usage. The horizontal axis represents the total water used in 10,000-gallon increments while the vertical axis represents the number of accounts corresponding to each volume. Each of the blue columns represent the number of accounts. The red line represents the cumulative total percentage that each column represents.

Figure 4-1

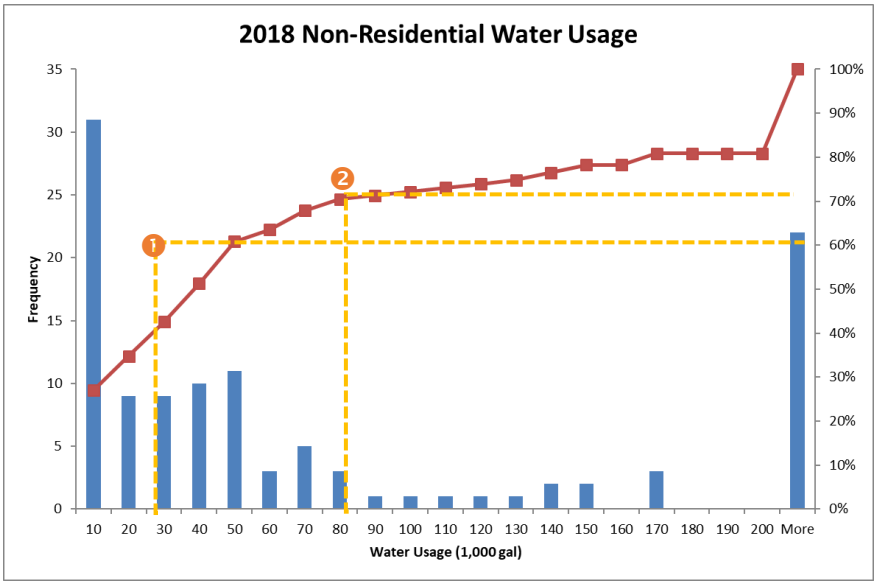
2018 Residential Water Use



The proposed rate structure consists of three tiers with the boundaries defined by the gold lines. Tier 1 includes usage up to 30,000 gallons represented by point 1 and captures just over 50% of all residential accounts. Tier 2 starts at 30,001 gallons and ends at 85,000 gallons (point 2) and captures over 90% of all residential users. Tier 3 captures all usage above 85,000 gallons. Figure 4-2 shows the same tier structure applied to non-residential usage.

Figure 4-2

2018 Non-Residential Water Use



See handout pages 11 and 12 for additional usage analysis information.

As Figure 4-2 shows, the distribution of non-residential usage is quite different than residential, this is to be expected as there is a wide range of water uses across the non-residential spectrum while the residential users tend to be more homogeneous and vary primarily in the magnitude of use.

4.3.5.4 Subtotaling Existing Usage by the Proposed Tiers

The 2018 water usage values were grouped into the proposed usage tiers and escalated the same as the usage in the previous two scenarios. The estimated usage for known developments were also broken into these tiers. The results are shown in Table 4-9 and Table 4-10.

Table 4-9

Existing Customer Usage Broken into the Proposed Tiers

Block	FY18	FY19	FY20	FY21	FY22	FY23	FY24
Tier 1	13,081	13,343	13,609	13,912	14,280	14,685	14,979
Tier 2	8,108	8,270	8,436	8,659	8,997	9,342	9,529

056

Revised and corrected.

Schedule 2.2 - Water Usage (Kgal)

Block	Type	FY19	FY20	FY21	FY22	FY23	FY24
Usage Tier 1 - Existing	Usage	13,081	13,343	13,327	13,594	13,865	14,143
Usage Tier 2 - Existing	Usage	8,108	8,270	8,590	8,762	8,937	9,116
Usage Tier 3 - Existing	Usage	17,422	17,770	16,938	17,277	17,622	17,975
-		38,611	39,383	38,855	39,632	40,425	41,233

Table 4-10
Estimated Usage from Known Development Under Proposed Tiers

Block	FY21	FY22	FY23
Tier 1	30	90	120
Tier 2	55	165	165
Tier 3	2,697	10,986	17,789

Revised based upon revised usage and development assumptions.

Block	FY21	FY22	FY23
Tier 1	180	180	270
Tier 2	262	262	427
Tier 3	18,030	18,030	23,467

The usage shown in Table 4-10 is based upon the development scenario described in Section 4.1

4.3.5.5 Starting Rates

Water or sewer rates exist in a continuum where each year's rate is based upon the previous years increased by either a percentage or a dollar amount. However, when rate structures are changed it is often necessary to reestablish a starting point. This starting point is the first year for proposed rate changes, in this case, FY21.

The starting rates are shown below in Schedule 4.2

Schedule 4.2 - Tiered Rates - No Projected Development

Description	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Base Fee	$150	$150	$150	$150	$153	$156	$159	$159	$159
Tier 1	$0.0150	$0.0150	$0.0150	$0.0150	$0.0153	$0.0156	$0.0159	$0.0159	$0.0159
Tier 2	$0.0225	$0.0225	$0.0225	$0.0225	$0.0230	$0.0234	$0.0239	$0.0239	$0.0239
Tier 3	$0.0330	$0.0330	$0.0330	$0.0330	$0.0337	$0.0343	$0.0350	$0.0350	$0.0350

The tiered rate structure was revised by shifting revenue generation towards the base fee and away from usage to increase revenue stability and equity of existing residential users.

Schedule 4.1 - Tiered ERU Rates - 0% Projected Dev.

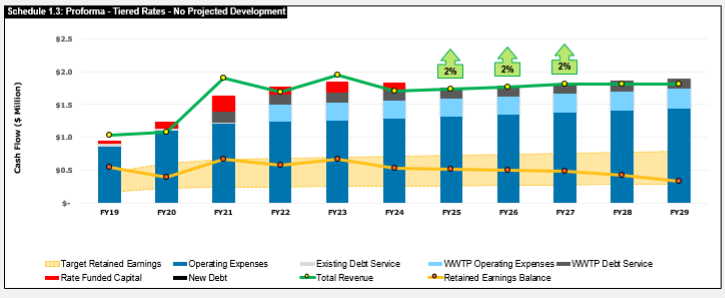
Category	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Base Fee	$575	$575	$575	$575	$575	$575	$575	$575	$575
Tier 1	$0.0065	$0.0065	$0.0065	$0.0065	$0.0065	$0.0065	$0.0065	$0.0065	$0.0065
Tier 2	$0.0098	$0.0098	$0.0098	$0.0098	$0.0098	$0.0098	$0.0098	$0.0098	$0.0098
Tier 3	$0.0130	$0.0130	$0.0130	$0.0130	$0.0130	$0.0130	$0.0130	$0.0130	$0.0130

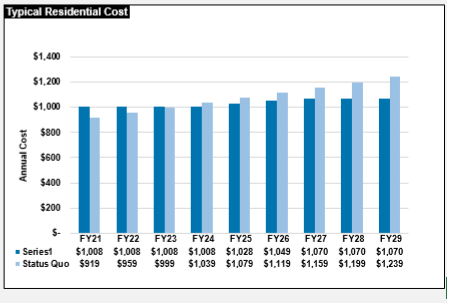
As mentioned previously, the second dimension of a tiered rate structure is the price increment. The rate model computes the cost of tiers 2, 3, etc. by multiplying the tier 1 starting rate by the price increments. The rates for years FY22 on are all based upon the prior year's value multiplied by the rate increases shown in the individual proformas. The starting price increments are 1.5 for tier 2 and 2.2 for tier 3. Again, there is little guidance in terms of establishing the price increment, the methodology used is to start with a conservative (in this case, a relatively small increment), test for efficacy and revise if required.

See handout pages 14 for revised proforma.

Schedule 1.3: Proforma - Tiered Rates - No Projected Development

		FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Revenue	*Rate Increase*									2%	2%	2%		
Base Fee		$ 931,500	$ 909,765	$ 964,597	$ 997,050	$ 202,920	$ 203,063	$ 223,583	$ 223,583	$ 228,054	$ 232,615	$ 237,268	$ 237,268	$ 237,268
Non-Rate Revenue		$ 73,847	$ 141,353	$ 65,161	$ 81,642	$ 116,977	$ 117,511	$ 118,948	$ 118,948	$ 121,163	$ 123,423	$ 125,728	$ 125,728	$ 125,728
Tier 1						$ 249,204	$ 249,632	$ 249,632	$ 249,632	$ 254,624	$ 259,717	$ 264,911	$ 264,911	$ 264,911
Tier 2						$ 91,555	$ 92,731	$ 92,731	$ 92,731	$ 94,585	$ 96,477	$ 98,406	$ 98,406	$ 98,406
Tier 3						$ 1,010,631	$ 1,016,519	$ 1,016,519	$ 1,016,519	$ 1,036,849	$ 1,057,586	$ 1,078,738	$ 1,078,738	$ 1,078,738
Allocation Fees						$ 206,080	$ 9,057	$ 172,724	$ -	$ -	$ -	$ -	$ -	$ -
System Development					$ -	$ 23,258	$ 8,075	$ 74,248	$ -	$ -	$ -	$ -	$ -	$ -
Total Revenue		$ 1,005,348	$ 1,051,118	$ 1,029,758	$ 1,078,692	$ 1,905,624	$ 1,696,586	$ 1,948,333	$ 1,701,411	$ 1,735,276	$ 1,769,818	$ 1,805,050	$ 1,805,050	$ 1,805,050
delta preview (Rate Revenue)				$ 54,332	$ 154,611	$ (794,534)	$ 140	$ 26,920	$ -	$ 4,472	$ 4,641	$ 4,652	$ -	$ -
delta preview (Total Revenue)				$ (21,340)	$ 49,934	$ 927,932	$ (290,038)	$ 251,746	$ (246,972)	$ 33,865	$ 34,542	$ 35,233	$ -	$ -
Net Revenue (Revenue-Expense)		$ 149,566	$ 93,075	$ 76,244	$ (155,418)	$ 273,728	$ (82,100)	$ 92,112	$ (133,259)	$ (18,629)	$ (19,177)	$ (19,911)	$ (56,778)	$ (94,666)
Retained Earnings Balance		$731,330	$466,478	$542,722	$387,305	$661,032	$578,933	$671,044	$537,785	$519,157	$499,980	$480,068	$423,290	$328,724
Retained Earnings as Percent of Operating Expenses		88%	54%	63%	35%	55%	47%	53%	42%	39%	37%	35%	30%	23%





The proforma resulting from applying the rates shown above to the usage previously described is shown below. Small rate increases are required throughout the analysis period, the resultant customer cost impacts are less than the targets established in Section 4.3.1, therefore this scenario meets the project goals.

4.3.6 Projected Revenue - Revised Service Development Charge (SDC)

The System Development Charge described in Section 4.1.1 was based upon the betterment formula used to fund construction of the original sewer system. The minutes of the January 17, 2006 Sewer Commission Meeting indicate that current values of $73.406 per foot of frontage and $11,539.356 were arrived at by simply doubling the values used in the original betterments based upon the statement that construction costs had more than doubled since. Although this fact is not in dispute, it is recommended that System Development Charges be based upon a defendable methodology and cost basis.

As discussed previously there are two methods for determining System Development Charges, buy-in or growth approach. For purposes of evaluation, the planned facility / growth approach was deemed most appropriate.

The method used to develop an alternative fee was adopted from the Water Environment Federation's Manual of Practice No. 27, Financing and Charges for Wastewater Systems, 4th Ed. The methodology consists of determining an appropriate unit of measure or scaling factor by which the growth-related costs are divided by to obtain a per unit cost. The per unit cost can then be applied to a variety of development projects.

4.3.6.1 Growth Related Costs

The growth-related cost was taken to be the $2.4M in construction debt allocated to the sewer enterprise. Note that the SDC is only intended to recover fixed capital costs and not operating costs.

4.3.6.2 Scaling Factor

Our understanding based upon discussions with the Town is that the new WWTP is designed to add hydraulic capacity versus biological treatment capacity, or stated differently, there is no existing concern over high strength wastes. To allocate the 100,000 gallons per day of capacity to be provided by the new plant the Equivalent Residential Unit (ERU) was selected. The ERU is used to represent non-residential uses as a multiple of a typical residential user.

Capacity is allocated to future projects based upon Title V flow estimates, and as discussed in Section 2, overestimates actual daily average flow, which the 100,000 gpd represents. The usage used for the typical residential user is 150 gpd which equals the 50 gallons per day per person for a three-person household also discussed in Section 2. This represents 45% of the 330 gallons per day assigned to a 3-bedroom house in Title V. Dividing 100,00 by 150 results in 667 ERU's. To obtain the value of 1 ERU the total cost of $2.4M is divided by 667, which results in a value of $3,600.

4.3.6.3 Estimating Revenue From revised SDC

Table 4-11 compares fee revenue between the current and revised fee structures for selected developments.

Table 4-11

Comparison of Estimated Fee Revenue

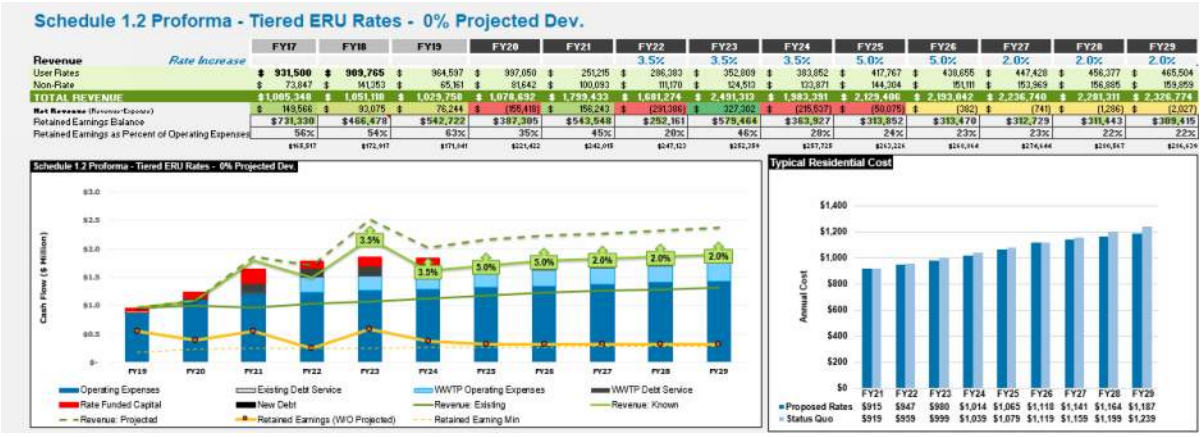
Development	Existing Fees		ERU Based Fee		Delta
	No. Units	Total	ERU's	Fee	
Hampton Inn[1]	100	**$293,238**	46	**$164,624**	-78%
100 Main	121	**$248,582**	81	**$292,464**	15%
Calamar/ 25 Perry	120	**$344,945**	50	**$181,440**	-90%
Bourne Scenic Park [2]	22	**$84,360**	53	**$191,160**	56%

Notes:

1. Shown for comparison only, Hampton Inn's total fee of $48,533 was based upon 2006 fee structure only and 1 Unit.
2. SDC for Bourne Scenic Park is estimated.

Note – the calculations shown on handout page 8 reflect further discussion relative to the application of the existing fee structure.

With the exception of Calamar, the new fee structure results in higher fee totals, with 100 Main and Bourne Scenic Park doubling. While it is important to have an established basis for SDC development, an equally important consideration is that excessive costs could drive off development. In recognition of the fact that the additional development would also contribute to user fees (rate revenue), the Tiered Rate alternative was reevaluated with the decreased ERU rate and development rate revenue calculated using the ERU's as billable units. The Proforma is shown below as Schedule 1.2.

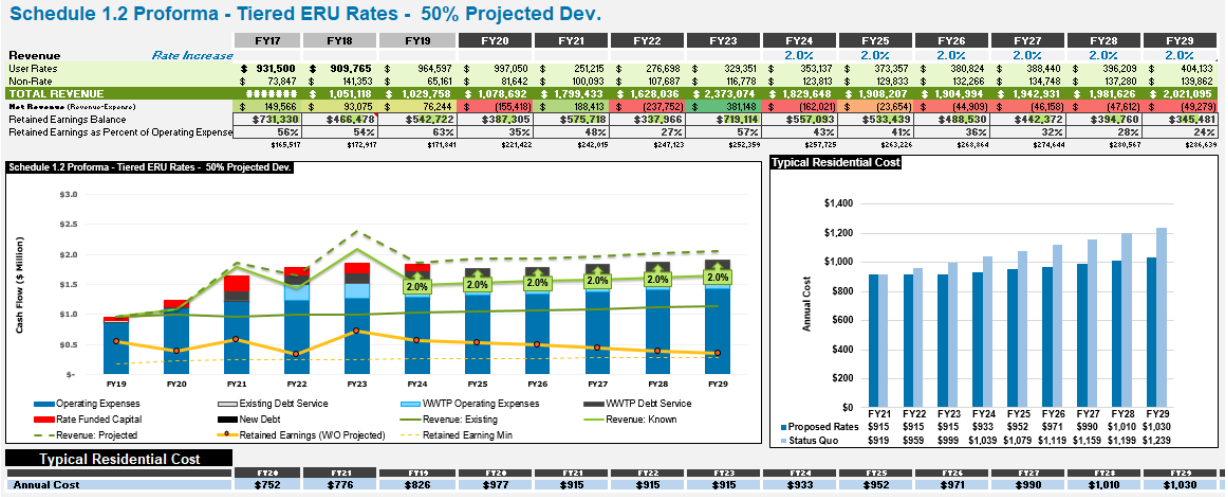


This scenario requires moderate rate increases throughout the analysis period to maintain the desired reserve balance. The residential user costs from this scenario are below the status quo costs which meet one of the project goals.

Note – Due to the rapidly changing economic conditions, the two scenarios ultimately discussed were 100% known development/ 50% projected development and no development at all. See handout pp. 13 &14.

previous scenarios were developed based upon either 0% or 100% development to frame

outcomes, however the most likely scenario is something in between. To evaluate the impact of partial development, the scenario shown above was modeled with 50% of projected development. The proforma is shown below.



Schedule 1.2 Proforma - Tiered ERU Rates - 50% Projected Dev.

	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Revenue *Rate Increase*								2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
User Rates	$ 931,500	$ 909,765	$ 964,597	$ 997,050	$ 251,215	$ 276,698	$ 329,351	$ 353,137	$ 373,357	$ 380,824	$ 388,440	$ 396,209	$ 404,133
Non-Rate	$ 73,847	$ 141,353	$ 65,161	$ 81,642	$ 100,093	$ 107,687	$ 116,778	$ 123,813	$ 129,833	$ 132,266	$ 134,748	$ 137,280	$ 139,862
TOTAL REVENUE	$ ########	$ 1,051,118	$ 1,029,758	$ 1,078,692	$ 1,799,433	$ 1,628,036	$ 2,373,074	$ 1,829,648	$ 1,908,207	$ 1,904,994	$ 1,942,931	$ 1,981,626	$ 2,021,095
Net Revenue (Revenue-Expense)	$ 149,566	$ 93,075	$ 76,244	$ (155,418)	$ 188,413	$ (237,752)	$ 381,148	$ (162,021)	$ (23,654)	$ (44,909)	$ (46,158)	$ (47,612)	$ (49,279)
Retained Earnings Balance	$731,330	$466,478	$542,722	$387,305	$575,718	$337,966	$719,114	$557,093	$533,439	$488,530	$442,372	$394,760	$345,481
Retained Earnings as Percent of Operating Expense	56%	54%	63%	35%	48%	27%	57%	43%	41%	36%	32%	28%	24%
	$165,517	$172,917	$171,041	$221,422	$242,015	$247,123	$252,359	$257,725	$263,224	$268,864	$274,644	$280,567	$286,639

Typical Residential Cost

	FY20	FY21	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	FY29
Annual Cost	$752	$776	$826	$977	$915	$915	$915	$933	$952	$971	$990	$1,010	$1,030

Under the 50% development scenario, minimal rate increases are required, and the residential costs represents the lowest of all scenarios except for the existing rate scenario.

See handout page 15 for extended customer impact analysis

Section 5
Conclusions and Recommendations

5.1 Capacity Management and Allocation Policy

5.1.1 Administrative

Approval: The version of the allocation policy found on the Town website is not signed by the Board of Sewer Commissioners and may call into question the validity of its application, if challenged. We recommend that a signed version to be uploaded immediately.

Residential Exclusion: The policy states that it does not apply to single family residences and residential buildings with up to four units. According the Town, vacant parcels were not initially assessed betterments as part of the collection system construction. Additionally, the policy appears to assume that all if not most existing usage used to calculate the uncommitted reserve capacity is residential use. Table 5-1 shows the summary of water use by customer type. The existing usage is almost exactly divided between residential and non-residential so there does not appear to be sufficient justification for a residential exclusion.

Table 5-1

Residential vs Non-Residential Usage

	2018 Water Usage	
User Class	Gallons (x 1,000)	% of Total
Residential	20,791	54%
Non-Residential	17,846	46%
TOTAL	38,637	100%

Project Identification: Projects are defined to by a combination of address and developers name, consolidating data from different sources was difficult due to inconsistent naming. We recommend using the parcel or assigning a unique identifier to each project to prevent further confusion.

Estimated Flows:

The application form requires the requested allocation volume and the *basis* for that volume. The estimated flows provided by Bourne were all based upon Title V estimates. Although Title V is generally not representative of actual sewer flow, it has become the default standard for demand projections in Massachusetts. We recommend that Bourne standardize on this practice for consistency.

5.1.2 Managing Uncommitted Reserve Capacity

Reconciling Actual vs Estimated Flows. Section V Paragraph A states "within six months of adoption of the policy the Board shall conduct a public hearing in order to review the Allocations to parcels on which betterments have been paid but no development has occurred."

a. Presuming that the policy has been approved, this language should be changed to represent the schedule moving forward.

b. Relative to use of the word 'betterment', the original sewer system was funded by betterments, however our understanding is this is no longer being used as a funding mechanism. The word betterment should be replaced with the appropriate fee, if that was the intent.

c. Section V Paragraph C requires reconciliation of actual versus estimated usage after three years. We recommend the reconciliation timeline to be shortened to once the project is at full capacity and no more than 12 months.

Increasing Usage. Existing usage has been increasing between 3% and 5% with no increase in users. This potentially reduces capacity independent of growth and should be monitored.

5.2 Development Fees

When new users enter or connect to an existing water or sewer system it is common for the municipality to assign a variety of connection fees and charges. These fees and charges fall into two categories, those directly related to the actual project (pipe connections, review fees, inspection fees, etc.) and System Development Charges (SDC's).

5.2.1 Existing Fees

The existing fee structure instituted in 2006 contains four individual fee components for commercial developers (see Section 4.1.1). The design review and construction inspection components are clearly administrative, and the System Development Charge is self-explanatory. It is not clear what costs the Sewer Permit Fee or Connection Fee are intended to recover or clear distinction between the two.

The 2017 Commercial Wastewater Management Allocation Policy includes three additional charges also described in 4.1.1, it is not clear if the intent of the 2017 policy was to supplement or expand the existing fees; the operational allocation fee appears to overlap with the sewer connection fee. In terms of rational nexus between fees and costs, the only justification is the doubling of the existing betterment charge, which is not designed to equitably distribute treatment plant costs.

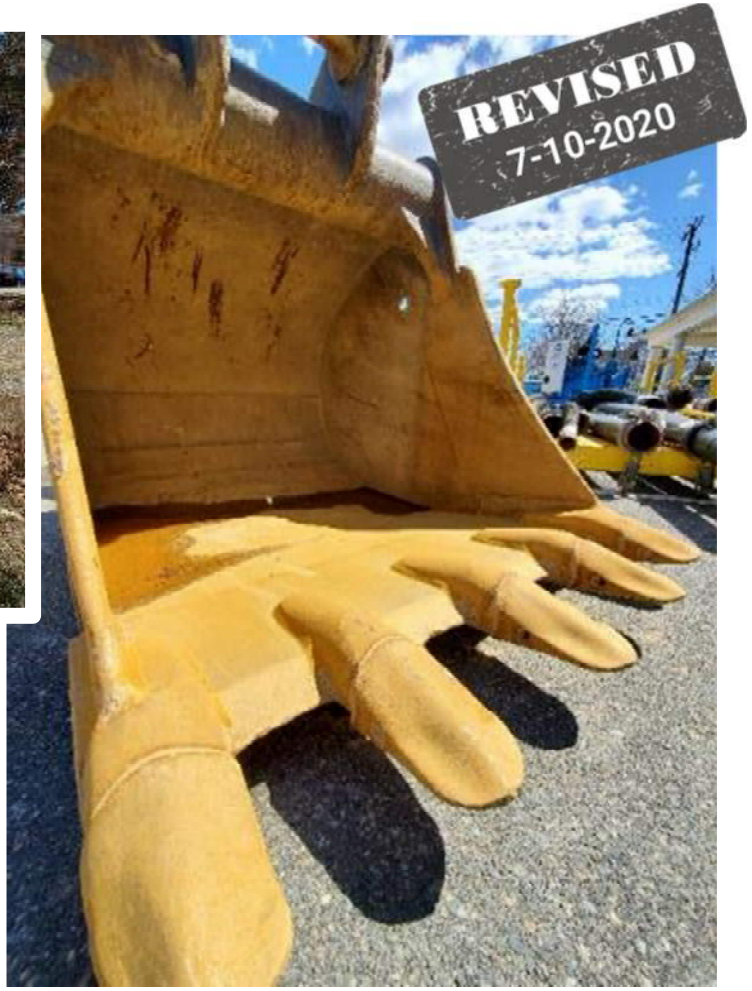
We recommend that Bourne review the existing fee structures, identify which administrative costs are to be recovered and adopt the ERU fee structure. The entire process including fees should be summarized in one document and referenced appropriately.

5.3 Sewer Rates

The existing rates consist of a base charge and an overage charge, the base charge is assessed to each billable unit, however, do definition of a billable unit could be found. In the supporting revenue projections for the WWTF for example the Hampton Inn was assumed to be billed for 100 units however while the system development fees were based upon one billable unit. The ERU based alternatives apply the base fee to the total number of ERU's which is suitable for use as it is defendable.

See handout page 19 for additional recommendations. At the July 28th, 2020 meeting of the Sewer Commission the FY21 sewer rates were set based upon maintaining the existing rate structure with a $90 increase to the base fee. Given the amount of uncertainty at present, this is a prudent decision. The commission should continue to monitor water use, development activity and revisit this issue in late FY21.

J:\B\B0855 Bourne\03 - Sewer Rate and Capactity Management\Design\Deliverables\Bourne Revised Final Draft 2_5_20.docx



BOURNE SEWER RATE EVALUATION

Bourne Sewer Commission

July 14, 2020 Workshop

Tighe&Bond

INTRODUCTION

REVISED
7-10-2020

This handout is designed specifically for use in a virtual meeting environment where some participants may be connected by telephone only. The goal is to provide a comprehensive overview of the evaluation in an intentionally condensed fashion to minimize the total number of pages.

Bourne Sewer System History and Overview

Existing sewer system

- Constructed in the 1990's
- Services the Downtown, Taylor Point and Hideaway Village Areas
- Paid by owners through betterments
- Sewage goes to Wareham for treatment through Intermunicipal Agreement (IMA)
- Sewer users are billed based upon a base fee which includes 45,000 gallons of use, anything over that billed at $0.01 per gallon.

New Wastewater Treatment Plant

- Need first identified in early 2000's
- Designed to support projected development in existing sewer service area
- Intended to be fully funded by new growth with no impact on existing rate payers.

Development Fees

- 2006 Existing fee structure established
- 2017 Capacity management policy developed

Project Goals

Rate Evaluation: Determine if new plant costs will be supported entirely by growth.

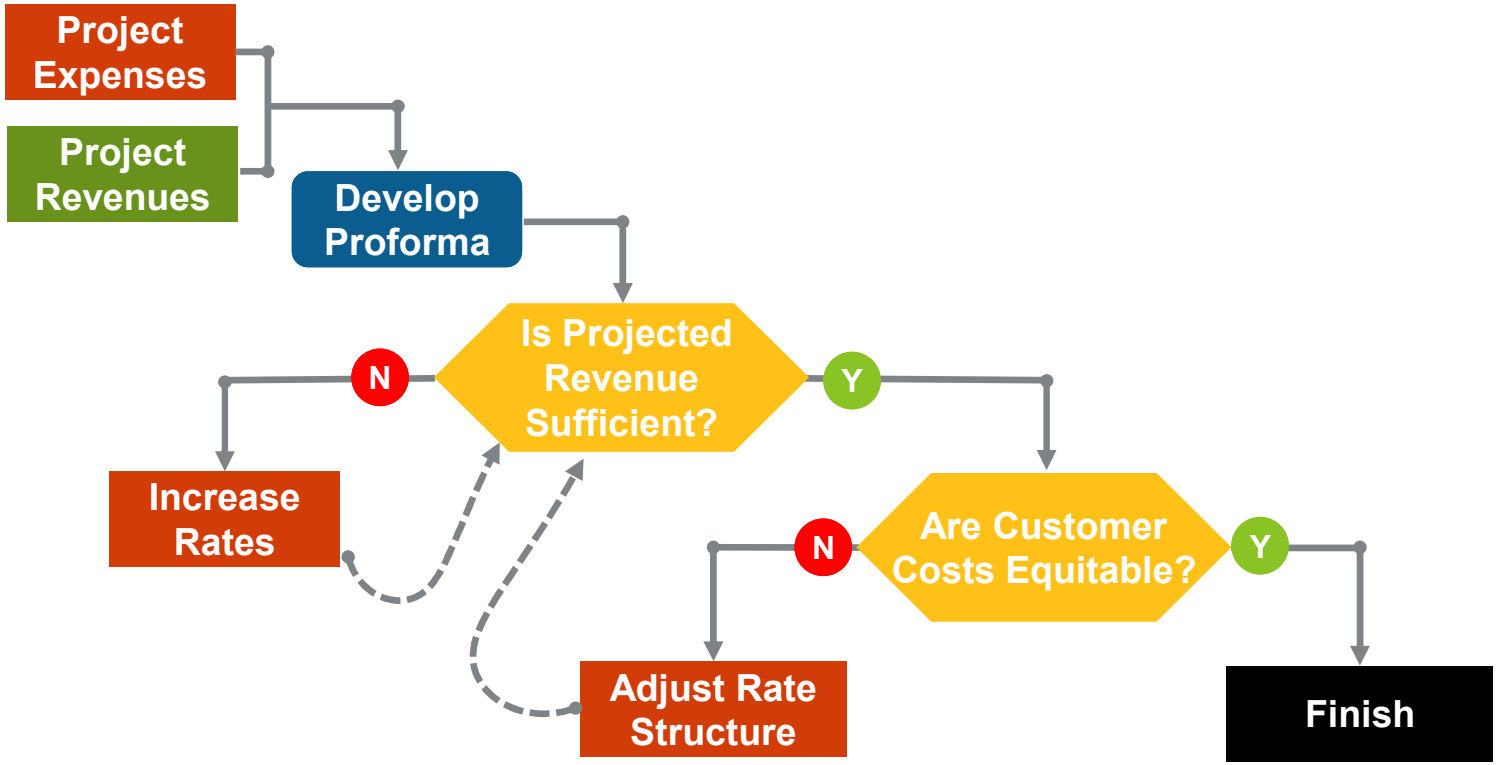
- Add costs of new plant to existing costs
- Estimate future revenue under existing connection fees and from future users
- Determine user cost impacts

Connection Fee and Allocation Evaluation

- Review existing development fees
- Review capacity allocation policy

RATE EVALUATION PROCESS

REVISED
7-10-2020



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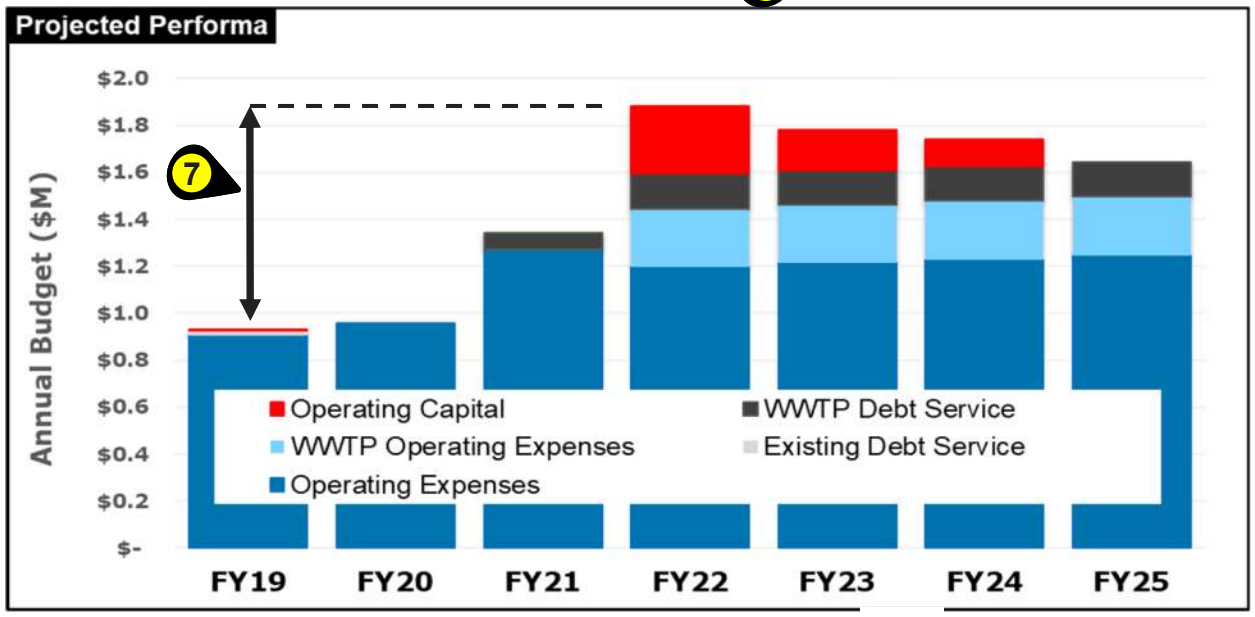
PROJECTING EXPENSES

REVISED 7-10-2020

	Actual Values FY19	Actual Values FY20	Budget Values FY21	Projected Values FY22	Projected Values FY23	Projected Values FY24	Projected Values FY25
Operating Expenses							
Wareham - Operating	$213,912	$400,0[illegible]	$410,000	$420,250	$430,756	$441,525	$452,563
Personnel Services	$170,024	$106,494	$197,380	$243,315	$249,397	$255,632	$262,023
Wareham - Capital	$188,478	$188,478	$188,478	$188,478	$188,478	$188,478	$188,478
Transfer Out (Indirects)	$128,607	$128,607	$140,944	$145,877	$150,983	$156,267	$161,736
Purchase of Services	$145,524	$92,776	$113,150	$79,796	$81,791	$83,836	$85,932
Other Charges and Expenditures	$47,408	$32,614	$105,375	$108,009	$110,710	$113,477	$116,314
Transfer Out (Reserve)	$0	$0	$100,000	$0	$0	$0	$0
Supplies	$12,661	$6,715	$20,028	$20,616	$21,223	$21,851	$22,498
Subtotal	$906,615	$955,684	$1,275,355	$1,206,341	$1,233,339	$1,261,066	$1,289,545
Delta Previous	3.4%	0.0%	9.6%	-5.4%	2.2%	2.2%	2.3%
Capital							
Operating Capital	$3,679	$0	$0	$290,000	$170,000	$115,000	$0
New Debt Service	$0	$0	$0	$0	$0	$0	$0
Existing Debt Service	$20,500	$0	$0	$0	$0	$0	$0
Subtotal	$24,179	$0	$0	$290,000	$170,000	$115,000	$0
New WWTP							
Operating Expenses	$0	$0	$0	$250,000	$250,000	$250,000	$250,000
Debt Service	$0	$0	$72,000	$146,776	$146,776	$146,776	$146,776
Subtotal	$0	$0	$72,000	$396,776	$396,776	$396,776	$396,776
TOTAL EXPENSES	$930,794	$955,684	$1,347,355	$1,893,117	$1,800,115	$1,772,843	$1,686,321



Key points:

1. Operating expenses projected to increase by about 3.5% annually
2. Wareham costs based on June 2019 settlement agreement. Cost escalates 2.5% annually
3. Plant O&M cost based upon estimate, actual cost will vary based upon future contracts costs and actual startup – based upon March 2021 completion
4. Based upon FY21 budget, should replace with information from schedule C.
5. Operating Capital reflects deferred projects including $100k Infiltration & Inflow investigation (MADEP required).
6. Based upon Budget, actual costs likely to be lower. For FY19 the actual expenditure was 77% of budget.
7. Budget levels nearly double by FY22 which tends to bring out any inequities in a water or sewer rate structure

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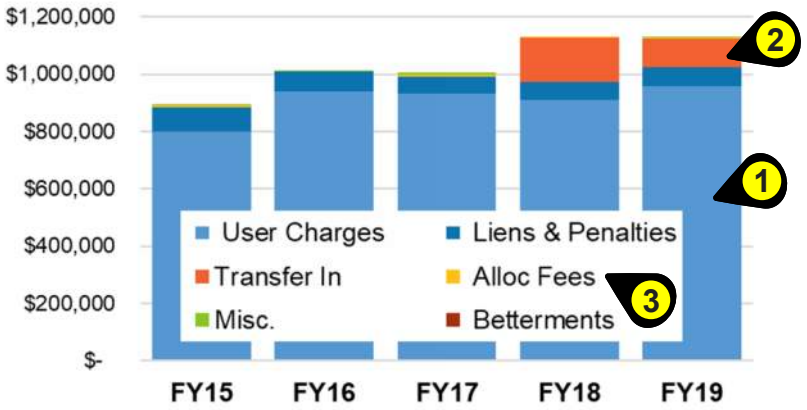
PROJECTING REVENUE

REVISED
7-10-2020

Historic Revenue by Source



Key points:

1. The majority of revenue has come from user charges
2. In the past, transfers were used to minimize rate increases
3. Once debt and CIP costs hit, development revenue becomes more important.

Projecting Revenue From New and Existing Customers

Existing Customers

User Charges: Based upon analysis of previous years usage data

New Customers (Development) Broken down into two categories:

Known: Projects that the Town is aware of and are in the development process

Projected: Estimated from undeveloped non-residential parcels

User Charges

Known: Based upon flow data provided in application materials or estimated combined with estimated connection year.

Projected: Based upon planning level flow estimates

Development Charges

Known: Based upon data provided in application materials or estimated combined with estimated connection year.

Projected: Based upon planning level data

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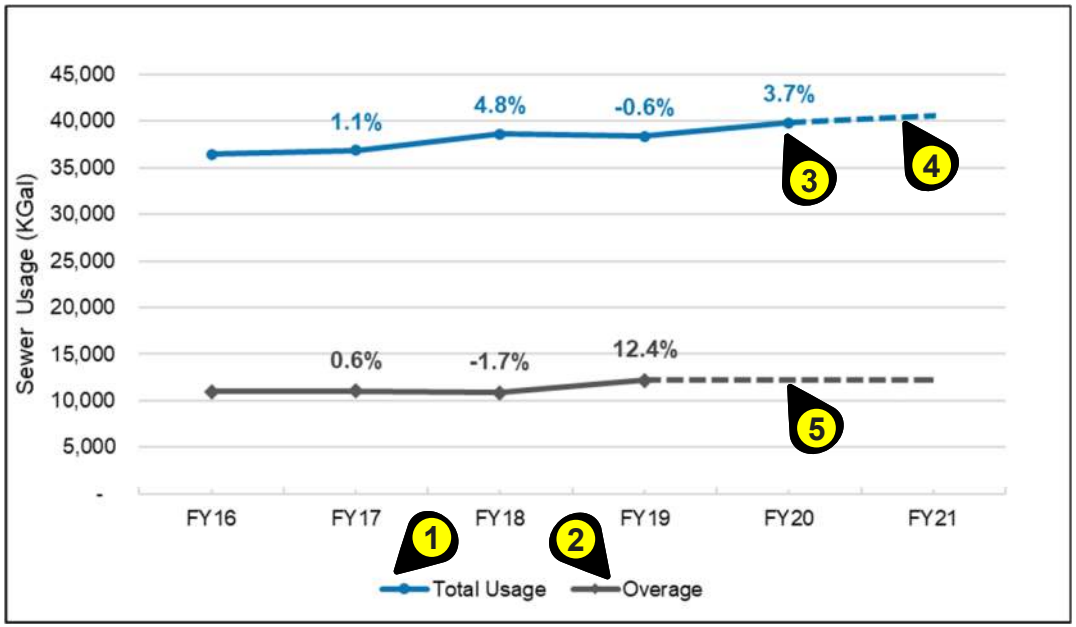
PROJECTING REVENUE FROM USER CHARGES

REVISED 7-10-2020

Usage Analysis – Existing Customers



Usage Analysis – Known Development

Development (6)	Flow Year	Units (7)	Allocated (gpd)	Expected Flow (gpd) (8)
Hampton Inn	2020	10	15,243	
Oak Bay Brewery	2020	1	1,661	
Veterinary Clinic	2020	1		-
Blended Berries	2020	1	440	
Mahoney's on Main	2020	1	3,465	
Vincent Michienzi (85-93 Main)	2020	1	13,000	6,500
Calamar/ 25 Perry	2021	120	16,800	8,400
James McLaughlin	2021	1	79	40
MMA Cadet Housing	2021	1	7,070	3,535
Bay Motor Inn	2022	1	11,985	5,993
Choubah Engineering	2022	1	41	21
GENCON/Robert Gendron	2023	109	17,750	8,875
100 Main	2023	121	26,080	13,040
Bourne Scenic Park	2023	20	17,700	8,850
CMP Development LLC	2023	1	46,475	23,238
Total				78,490

Key points:

1. Total amount of water use as measured by Buzzards Bay Water District
2. Amount of usage over the 45K gallons allotted per billable unit under the current rate structure
3. 2020 based upon first 6 months of meter data extrapolated to full year using data from previous years water use.
4. Estimated to increase at 2% annually
5. Overage trends differently than total usage because of masking effect of existing fee structure. Projected to remain at 2019 levels.
6. First year of flow, based upon best estimate. Green indicates project usage appears in 2019 flow data
7. Allocated flow is based upon Title 5 (Septic System planning level flow estimates based upon type of use). Generally considered to be a maximum day flow or about twice the average daily flow
8. 50% of Title 5 flow, considered to be an average daily flow

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PROJECTING REVENUE FROM DEVELOPMENT FEES

FEE STRUCTURES

REVISED 7-10-2020

Existing Fee Structure

Fee	Amount and Basis
Existing Fee Structure (as of 2006)	
Design Review and Construction Inspection Fee	$1,500 (commercial only)
Commercial Sewer Permit Fee	$150 + $0.010 per square foot of building floor space
Sewer Connection Fee	Annual sewer fee times the number of business units.
Residential Sewer Permit Fee	$100 + $100 for each additional unit.
Sewer System Development Charge	$5,769.678 per acre plus $36.703 per foot of frontage.
2017 Commercial Allocation Policy Fees	
Application Fee	$1,500
Preliminary Allocation Fee	$5,000 plus $1 per projected flow
Operational Allocation Fee	Number of units x current annual base rate sewer fee

Key points:

1. 2006 Sewer Development Charge was based upon betterment structure used to pay for system in the 1990's. This method is designed to distribute the costs of sewer (horizontal) construction.
2. The proposed system development charge distributes the $2.4M of new WWTP debt assigned to the sewer enterprise fund using the widely accepted ERU methodology.

Proposed ERU Based Development Fee

Service Development Charge

1. Determine number of Equivalent Residential units

Divide total plant capacity by average residential usage

Total Capacity	100,000	gpd
Residential usage	150	gpd
Equals	**667**	**ERU's**

2. Determine ERU cost

Cost to be recovered	$2,400,000	
Total ERU's	667	
Equals	**$3,600**	**Per ERU**

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PROJECTED DEVELOPMENT REVENUE

Existing Fee Structure

REVISED 7-10-2020

Known Development

Development	Flow Year	Units	① Allocated (gpd)	Expected Flow (gpd)	2017 Commercial Allocation Policy Application Fee	 Preliminary Allocation Fee (calc)	2006 Fee Structure System Development Charge	② Grand Total	③ Total Billed	④ Total Remaining
Hampton Inn	2020	100	15,243		$1,500	$21,743	$39,231	**$62,474**	$48,533	
Oak Bay Brewery	2020	1	1,661		$1,500	$8,756	$8,757	**$19,013**	$8,756	
Veterinary Clinic	2020	1		-	$1,500	$6,681	$10,514	**$18,694**		
Blended Berries	2020	1	440		$1,500	$6,940	$31,816	**$40,256**		
Mahoney's on Main	2020	1	3,465		$1,500	$9,965	$5,414	**$16,879**		$16,879
Vincent Michienzi (85-93 Main)	2020	1	13,000	6,500	$1,500	$19,500	$20,810	**$41,810**	$21,000	$20,810
Calamar/ 25 Perry	2021	120	16,800	8,400	$1,500	$23,300	$70,922	**$95,722**	$21,800	$73,922
James McLaughlin	2021	1	79	40	$1,500	$6,830	$15,011	**$23,341**	$6,579	$16,762
MMA Cadet Housing	2021	1	7,070	3,535	$1,500	$13,570	$18,586	**$33,656**	$13,570	$20,086
Bay Motor Inn	2022	1	11,985	5,993	$1,500	$6,684	$49,184	**$57,368**		$57,368
Choubah Engineering	2022	1	41	21	$1,500	$6,541	$68,358	**$76,399**		$76,399
GENCON/Robert Gendron	2023	109	17,750	8,875	$1,500	$24,250	$31,450	**$57,200**	$24,250	$32,950
100 Main	2023	121	26,080	13,040	$1,500	$32,580	$9,875	**$43,955**		$43,955
Bourne Scenic Park	2023	20	17,700	8,850	$1,500	$24,200	$58,961	**$84,661**		$84,661
CMP Development LLC	2023	1	46,475	23,238	$1,500	$52,975	$39,491	**$93,966**		$93,966
Total				**78,490**	**$22,500**	**$264,514**	**$478,379**	**$765,394**	**$144,488**	**$537,757**

Projected Development

Land Use Description	Title 5 Estimated Flow (gpd)	Expected Flow (gpd)	Est No Units	Application Fee	Preliminary Allocation Fee	System Development Charge	Grand Total
Vacant, Selectmen or City Council (Municipal)	1,468	734	12	$ 1,500	$ 7,968	$ 18,570	**$ 28,038**
Developable Commercial Land	1,411	706	12	$ 1,500	$ 7,911	$ 18,273	**$ 27,684**
Undevelopable Commercial Land	501	250	5	$ 1,500	$ 7,001	$ 5,805	**$ 14,306**
Undevelopable Commercial Land	736	368	6	$ 1,500	$ 7,236	$ 7,089	**$ 15,825**
Vacant, Selectmen or City Council (Municipal)	645	322	6	$ 1,500	$ 7,145	$ 19,619	**$ 28,264**
Vacant, Selectmen or City Council (Municipal)	954	477	8	$ 1,500	$ 7,454	$ 15,593	**$ 24,547**
Developable Commercial Land	1,015	507	9	$ 1,500	$ 7,515	$ 9,809	**$ 18,824**
Developable Commercial Land	1,346	673	11	$ 1,500	$ 7,846	$ 15,678	**$ 25,024**
Developable Commercial Land	1,699	849	14	$ 1,500	$ 8,199	$ 9,639	**$ 19,337**
Developable Commercial Land	1,668	834	14	$ 1,500	$ 8,168	$ 10,732	**$ 20,401**
Vacant, Selectmen or City Council (Municipal)	4,252	2,126	35	$ 1,500	$ 10,752	$ 23,962	**$ 36,213**
Vacant, Selectmen or City Council (Municipal)	23,392	11,696	190	$ 1,500	$ 29,892	$ 90,595	**$ 121,986**
-	9,061	4,530	74	$ 1,500	$ 15,561	$ 38,683	**$ 55,744**
Undevelopable Commercial Land	684	342	6	$ 1,500	$ 7,184	$ 14,071	**$ 22,754**
	48,831	**24,415**	**402**	**$21,000**	**$139,831**	**$298,116**	**$458,947**

Key points:

1. Assumed
2. Consists of the three charges shown which represent Bourne's intended application of existing fees
3. Total received to date
4. Remaining charges anticipated to be billed
5. Parcels selected based upon land use descriptions. Developable residential parcels not included based upon previous discussion relative to zoning restrictions
6. Development fees distributed based upon the assumed timeline

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PROJECTING REVENUE FROM DEVELOPMENT FEES

REVISED 7-10-2020

Proposed Fee Structure

Known Development

Development	Flow Year	Expected Flow (gpd)	No. ERU's	ERU System Development Charge
Hampton Inn	2020			$ -
Oak Bay Brewery	2020			$ -
Veterinary Clinic	2020	-		$ -
Blended Berries	2020			$ -
Mahoney's on Main	2020			$ -
Vincent Michienzi (85-93 Main)	2020	6,500	44	$ 158,400
Calamar/ 25 Perry	2021	8,400	56	$ 201,600
James McLaughlin	2021	40	1	$ 3,600
MMA Cadet Housing	2021	3,535	24	$ 86,400
Bay Motor Inn	2022	5,993	40	$ 144,000
Choubah Engineering	2022	21	1	$ 3,600
GENCON/Robert Gendron	2023	8,875	60	$ 216,000
100 Main	2023	13,040	87	$ 313,200
Bourne Scenic Park	2023	8,850	59	$ 212,400
CMP Development LLC	2023	23,238	155	$ 558,000
Total		**78,490**	**527**	**$1,897,200**

Known Development

Land Use Description	Title 5 Estimated Flow (gpd)	Expected Flow (gpd)	No. ERU's	ERU System Development Charge
Vacant, Selectmen or City Council (Municipal)	1,468	734	5	$ 35,232.00
Developable Commercial Land	1,411	706	5	$ 33,871.20
Undevelopable Commercial Land	501	250	2	$ 12,021.60
Undevelopable Commercial Land	736	368	3	$ 17,668.80
Vacant, Selectmen or City Council (Municipal)	645	322	3	$ 15,472.80
Vacant, Selectmen or City Council (Municipal)	954	477	4	$ 22,896.00
Developable Commercial Land	1,015	507	4	$ 24,357.60
Developable Commercial Land	1,346	673	5	$ 32,304.00
Developable Commercial Land	1,699	849	6	$ 40,771.20
Developable Commercial Land	1,668	834	6	$ 40,039.20
Vacant, Selectmen or City Council (Municipal)	4,252	2,126	15	$ 102,036.00
Vacant, Selectmen or City Council (Municipal)	23,392	11,696	78	$ 561,400.80
-	9,061	4,530	31	$ 217,452.00
Undevelopable Commercial Land	684	342	3	$ 16,413.60
	48,831	**24,415**	**170**	**$1,171,937**

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DEVELOPMENT FEE SUMMARY

REVISED 7-10-2020

Existing Fee Structure

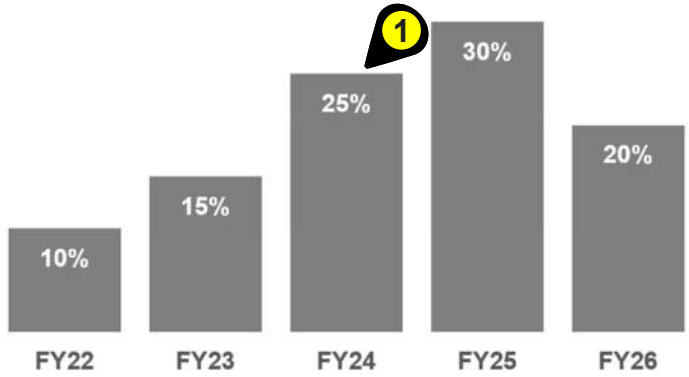
	Known	Projected (1)	Total	Debt Service (2)	Stabilization Balance (3)
2020	$ 144,488		$ 144,488	$ -	$ 144,488
2021	$ 211,408	$ -	$ 211,408	$ 72,000	$ 283,896
2022	$ 133,767	$ 45,895	$ 179,662	$ 148,981	$ 314,577
2023	$ 235,827	$ 68,842	$ 304,669	$ 148,981	$ 470,265
2024	$ -	$ 114,737	$ 114,737	$ 148,981	$ 436,021
2025	$ -	$ 137,684	$ 137,684	$ 148,981	$ 424,724
2026		$ 91,789	$ 91,789	$ 148,981	$ 367,533
2027		$ -	$ -	$ 148,981	$ 218,552
2028		$ -	$ -	$ 148,981	$ 69,571
2029		$ -	$ -	$ 148,981	$ (79,409)
Total	**$ 725,490**	**$ 458,947**	**$ 1,184,437** (4)		

Proposed Fee Structure

	Known	Projected	Total	Debt Service	Stabilization Balance
2020	$ 144,488.00	$ -	$ 144,488	$ -	$ 144,488
2021	$ 450,000	$ -	$ 450,000	$ 72,000	$ 522,488
2022	$ 147,600	$ 61,200	$ 208,800	$ 148,981	$ 582,307
2023	$ 1,299,600	$ 91,800	$ 1,391,400	$ 148,981	$ 1,824,727
2024	$ -	$ 153,000	$ 153,000	$ 148,981	$ 1,828,746
2025	$ -	$ 183,600	$ 183,600	$ 148,981	$ 1,863,365
2026	$ -	$ 122,400	$ 122,400	$ 148,981	$ 1,836,784
2027	$ -		$ -	$ 148,981	$ 1,687,804
2028	$ -		$ -	$ 148,981	$ 1,538,823
2029	$ -		$ -	$ 148,981	$ 1,389,842
	$ 2,041,688	**$ 612,000**	**$ 2,653,688**		

Key points:

1. Projected development is assumed to follow the timeline shown below (i.e. 25% of all projected development fees are assumed to be collected in FY24).
2. While the goal of System Development charges is to recover the $2.4M in new WWTP Debt assigned to the Sewer Enterprise, the debt service represents the actual cost that must be paid each year
3. Assumes that all development fee revenue is deposited into the Capital Stabilization Fund and used only to pay debt service
4. Existing fee structure does not recover full cost of capital as it was not designed for that purpose



Assumed Projected Development Timeline

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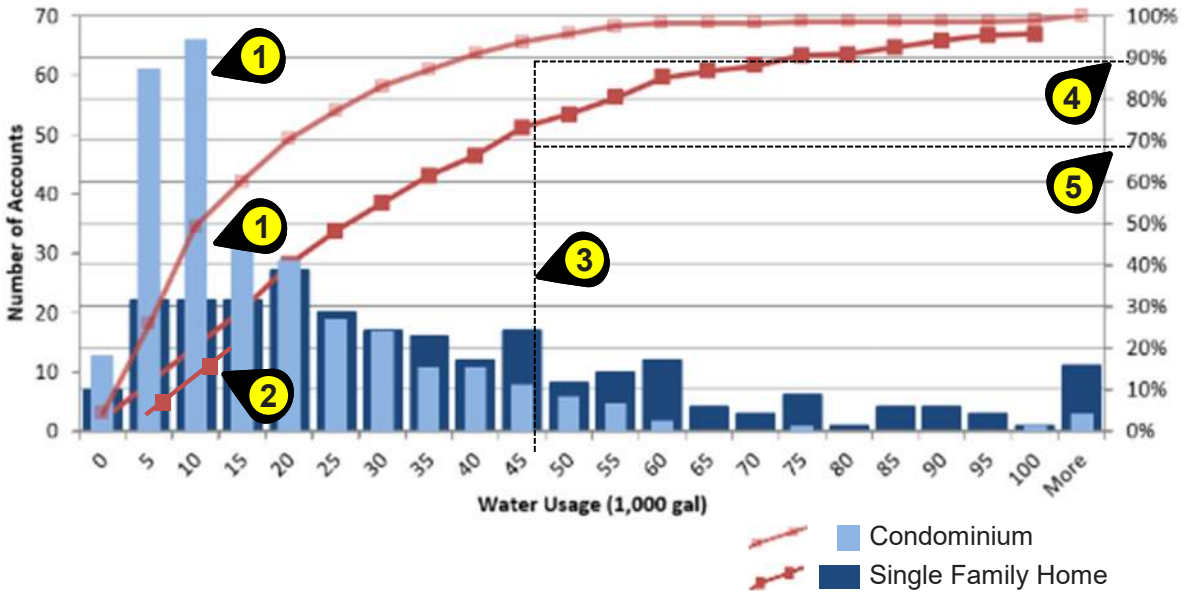
PROJECTING REVENUES – USER FEES

Evaluation of Existing Fee Structure

Residential Condo and Single-Family Usage Evaluation



REVISED 7-10-2020

Key points:

1. Example data point. This shows that out of all the condominium customer accounts, 65 of them (or 50% of them) used a total of 10,000 gallons of water in 2018.
2. Similarly, 21 of the single family customers (~20% of them) also used 10,000 gallons of water in 2018. This means condo's use less water than houses.
3. Bourne's current sewer user rate includes 45,000 gallons of usage before customers are charged for overage.
4. Usage data appears to be heavily skewed by seasonal aspect. This is exacerbated by the fact that usage is only billed once per year.

Pros and Cons of existing rate structure

The generous usage allowance means most residential customers never exceed the minimum charge.

Users are effectively paying for more usage than than they actually need.

Residential Usage

- MADEP target max usage = 65 gallons per person per day for residential. This equals 94,000 gallons per year.
- 50,000 gallons per year equals 2 people at 65 gallons per person per day or average family at 50 gpd
- 20,000 gpd example is seasonal cottage

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PROJECTING REVENUES – USER FEES

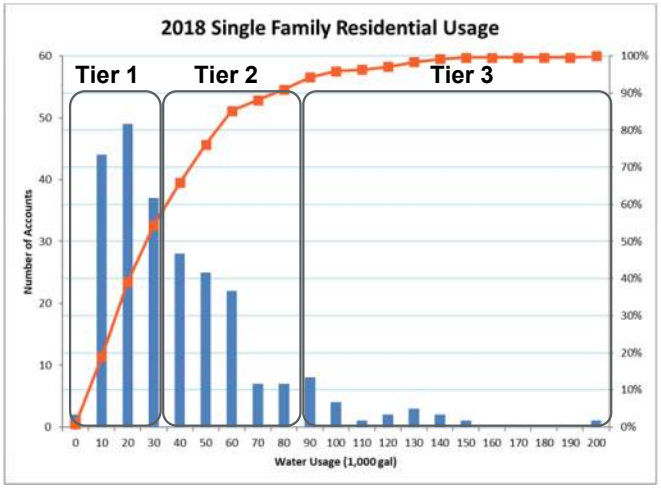
REVISED
7-10-2020

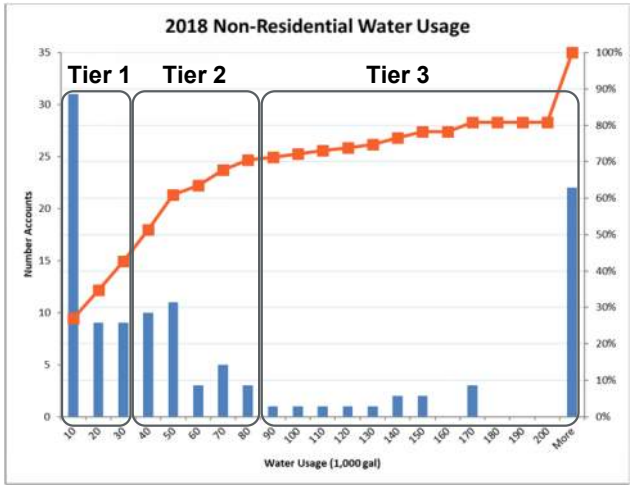
Alternative Rate Structure Development

The existing rates charge by the number of billing units, however this is not defined for non-residential customers which results in inconsistent user costs. As an alternative, a rate structure that maintains the base rate and a usage charge was developed. Many systems use base charges that increase according to the size of the water meter, this reflects the fact that larger users have a proportionally larger impact on system operations and costs. Since Bourne does not own the water system, this information was not available, thus the same Equivalent Residential Unit (ERU) method was used to establish the number of ERU's per customer. The customer's base charge would equal the number of ERU's times the Base Fee ($600 per ERU in FY21).

With Tiered (or stepped) rates, the usage portion of the customers bill increases with the amount of usage. This is commonly used to encourage water conservation. The proposed tiers are based upon evaluation of the existing water use for both single family residential and non-residential users. The steps in a tier are defined by the volumetric increase and rate increase. Tiers volumes were developed based upon analysis of existing water use for both single family and non-residential customers.

Usage Analysis





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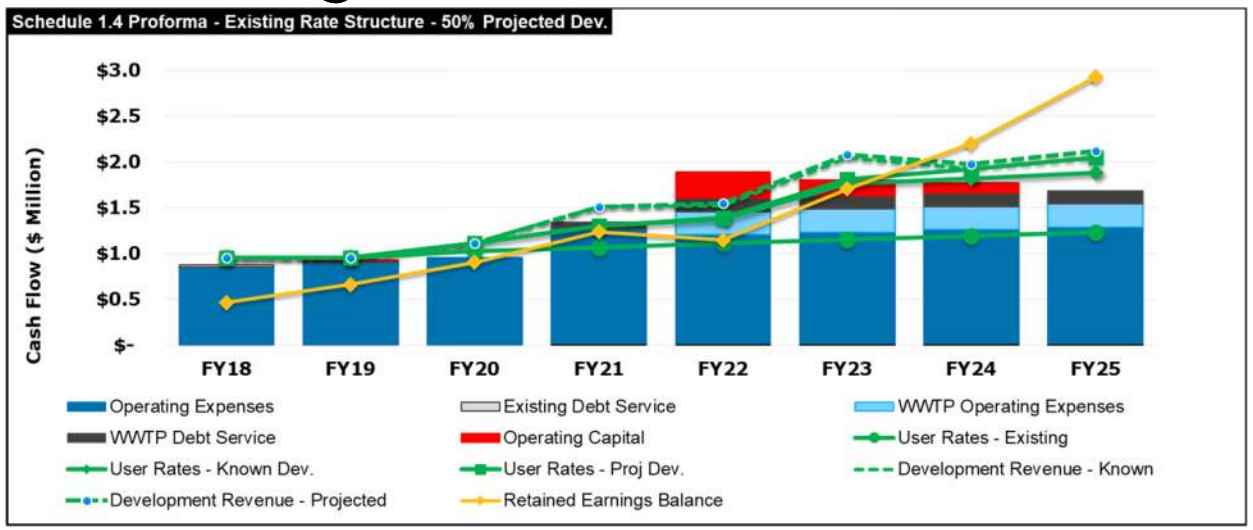
RATE ALTERNATIVE A – STATUS QUO

Existing Rate and Fee Structure (usage and development fees)

REVISED 7-10-2020

Revenue	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
User Rates - Existing	$ 955,370	$ 958,468	$ 1,027,974	$ 1,069,470	$ 1,110,966	$ 1,152,462	$ 1,193,958	$ 1,235,454
User Rates - Known Dev.		$ -	$ 86,010	$ 232,124	$ 262,923	$ 612,123	$ 630,363	$ 648,603
User Rates - Proj Dev.		$ -	$ -	$ -	$ 18,677	$ 48,402	$ 100,186	$ 166,058
Development Revenue - Known			$ -	$ 211,408	$ 133,767	$ 235,827	$ -	$ -
Development Revenue - Projected			$ -	$ -	$ 22,947	$ 34,421	$ 57,368	$ 68,842
Non Rate		$ 170,811	$ 83,202	$ 96,335	$ 102,703	$ 132,132	$ 139,939	$ 148,731
Total Revenue		$ 1,129,280	$ 1,197,187	$ 1,609,337	$ 1,651,983	$ 2,215,367	$ 2,121,814	$ 2,267,688
Net Revenue (Revenue-Expense)	$ 35,189	$ 198,486	$ 241,503	$ 333,982	$ (94,358)	$ 562,028	$ 495,747	$ 728,143
Retained Earnings Balance	$466,478	$664,964	$906,467	$1,240,448	$1,146,090	$1,708,118	$2,203,865	$2,932,009
Retained Earnings as Percent of OpEx	55%	73%	95%	97%	95%	138%	175%	227%



User Rates

Description	Type	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Base Fee	Annual	$776	$812	$879	$919	$959	$999	$1,039	$1,079
Overage	Usage	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100
Increase			$24	$36	$67	$40	$40	$40	$40	$40

Residential Costs

Scenario	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Alternative A	$ 776	$ 826	$ 1,060	$ 1,100	$ 1,140	$ 1,180	$ 1,220	$ 1,260
Increase		$ 50	$ 234	$ 40	$ 40	$ 40	$ 40	$ 40

Key points:

1. Most recent data
2. Base fee goes up by $40 per year which is considered to be the status quo in terms of estimating burden on existing rate payers
3. User rate revenue for developments subject to change due to assumptions of billable units.
4. Assumes ***ALL*** known development and **50%** of projected development move forward as previously shown.
5. Average household (2.66 people) using 65 gpd each (State target) or 62.2K gal per year.

Alternative A supports enterprise without undue burden on existing rate payers*.

** Based upon FY18 financial data, projected usage and development assumptions shown herein.*

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RATE ALTERNATIVE B – NEW RATES & FEES

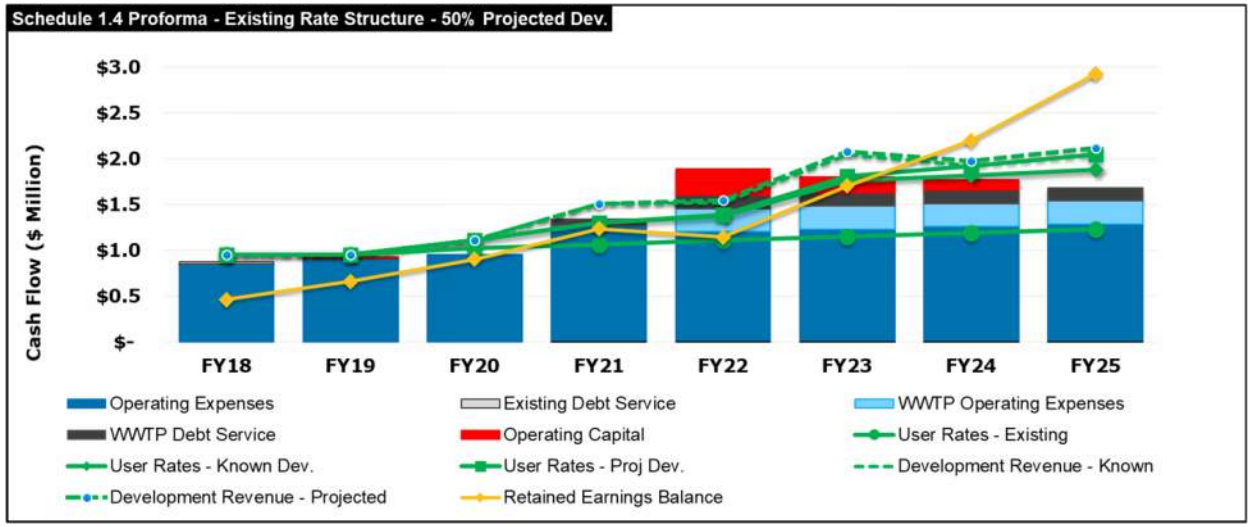
ERU and Tiered Usage Rates with ERU Based Development Fees

REVISED 7-10-2020

Schedule 1.2 Proforma - Tiered ERU Rates - 50% Projected Dev.

Revenue		FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
User Rates - Existing		$ 955,370	$ 958,468	$ 1,027,974	$ 1,011,795	$ 1,019,216	$ 1,026,785	$ 1,034,505	$ 1,042,381
User Rates - Known Dev.				$ 86,010	$ 350,209	$ 351,301	$ 557,640	$ 604,315	$ 611,157
User Rates - Proj Dev.					$ 3,198	$ 27,916	$ 54,955	$ 79,887	$ 94,950
Development Revenue - Known				$ -	$ 450,000	$ 147,600	$ 1,299,600	$ -	$ -
Development Revenue - Proj					$ -	$ 30,600	$ 45,900	$ 76,500	$ 91,800
Non-Rate			$ 170,811	$ 70,218	$ 95,930	$ 98,256	$ 115,122	$ 120,675	$ 122,760
TOTAL REVENUE	Total		$ 1,129,280	$ 1,184,202	$ 1,911,131	$ 1,674,888	$ 3,100,002	$ 1,915,883	$ 1,963,048
Net Revenue (Revenue-Expense)		$ 257,284	$ 198,486	$ 228,518	$ 635,776	$ (71,453)	$ 1,446,664	$ 289,816	$ 423,503
Retained Earnings Balance		466,478	$664,964	$893,482	$1,529,258	$1,457,805	$2,904,468	$3,194,285	$3,617,787
Retained Earnings as Percent of Op Ex		55%	73%	93%	120%	121%	235%	253%	281%

Schedule 1.4 Proforma - Existing Rate Structure - 50% Projected Dev.



User Rates

Category	Type	FY18	FY19	FY20	FY2	FY22	FY23	FY24	FY25
Base Fee	Annual	$776	$812	$879	$575	$575	$575	$575	$575
Tier 1	Usage				$0.0065	$0.0065	$0.0065	$0.0065	$0.0065
Tier 2	Usage				$0.0098	$0.0098	$0.0098	$0.0098	$0.0098
Tier 3	Usage				$0.0130	$0.0130	$0.0130	$0.0130	$0.0130

Residential Costs

Scenario	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Alternative B	$ 776	$ 826	$ 1,060	$ 1,093	$ 1,093	$ 1,093	$ 1,093	$ 1,093
Increase		$ 50	$ 234	$ 33	$ -	$ -	$ -	$ -

Key points:

1. Most recent data
2. Base fee is based upon the number of ERU's (same as current number of units for all residential users, average daily flow / 150 gallons per day for non-residential). ***No usage is included in base fee***. Annual billing frequency assumed for usage.
3. User rate revenue for developments subject to change due to assumptions of billable units.
4. Assumes ***ALL*** known development and 50% of projected development move forward as previously shown.
5. Average household (2.66 people) using 65 gpd each (State target) or 62.2K gal per year.

Alternative B supports enterprise without undue burden on existing rate payers* - see page 15 for more.

** Based upon FY18 financial data, projected usage and development assumptions shown herein.*

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CUSTOMER COST IMPACTS

REVISED 7-10-2020

Land Use Code	LOCATION	2018 USAGE (Gal x 1,000)	2019 USAGE (Gal x 1,000)	Billable Units	No. of ERU's	Annual Bill Existing Rates	Annual Bill Tiered Rates	Delta
Business Condo	271 MAIN STREET (NAPA AUTO PARTS)	41	57	2	1	$ 1,838	$1,033	-$805
Business Condo	258 MAIN STREET (BUZZARDS BAY PROF.)	490	540	17	9	$ 15,623	$11,821	-$3,802
Gasoline Service Stations	246 MAIN STREET (SUPER PETR.)	29	17	1	1	$ 919	$686	-$234
Gasoline Service Stations	160 MAIN STREET (CUMBERLAND FARMS)	485	500	1	9	$ 5,469	$11,301	$5,832
Hotel	Perry Lane (Hampton Inn)		168	1	1	$ 2,149	$2,385	$236
Mixed Use (Primarily Comm.)	7 & 9 ST MARGARETS STREET	148	120	6	3	$ 5,514	$2,911	-$2,603
Mixed Use (Primarily Comm.)	145 MAIN STREET	350	321	3	7	$ 3,377	$7,824	$4,447
Mixed Use (Primarily Comm.)	267 MAIN STREET (LAUNDRY MAT)	2,350	2450	1	43	$ 24,969	$56,201	$31,232
Residential Condo	10-C HORSESHOE LANE	5	3	1	1	$ 919	$595	-$325
Residential Condo	20-H BAKERS LANE	20	16	1	1	$ 919	$679	-$240
Residential Condo	21-S BOG VIEW DRIVE	119	116	1	1	$ 1,629	$1,709	$80
Restaurants/Food Service	57 MAIN STREET (MAHONEY'S ON MAIN ST)	10	321	1	1	$ 3,679	$4,374	$695
Restaurants/Food Service	225 MAIN STREET (BETTY ANNE'S)	94	105	1	2	$ 1,519	$2,141	$622
Restaurants/Food Service	278 MAIN STREET (DUNKIN DONUTS)	560	540	1	11	$ 5,869	$12,971	$7,102
Single Family Residential	18 EVERETT ROAD	15	15	1	1	$ 919	$673	-$247
Single Family Residential	225A MAIN STREET	60	50	1	1	$ 969	$965	-$4
Single Family Residential	24 OLD BRIDGE ROAD	95	100	1	1	$ 1,469	$1,501	$32
Two-Family Residential	17 BAY DRIVE	15	16	2	2	$ 1,838	$1,254	-$584
Two-Family Residential	33 OLD BRIDGE ROAD	74	80	2	2	$ 1,838	$1,833	-$6
Two-Family Residential	34 HARRISON AVENUE	144	133	2	2	$ 2,053	$2,505	$452

1 2 3

Key points:

1. Representative sampling of most common user types showing range of usage.
2. Example of inconsistent application of billable units for existing rate structure
3. Single family typically used as test case for determining rate impacts.

Residential Usage

- Bourne has large seasonal component ~40% of single family homes likely to be seasonal
- MADEP target max usage = 65 gallons per person per day for residential. This equals 94K gallons per year for a 4 person household.
- 50,000 gallons per year equals 2 people at 65 gallons per person per day or average family (2.5 people) at 50 gpd
- 15,000 gpd example is likely seasonal

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RATE ALTERNATIVE A1 – STATUS QUO
NO NEW DEVELOPMENT

REVISED 7-10-2020

		FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Revenue	*Rate Increase*					20%	20%	5%	
Base Fee		$ 804,285	$ 958,947	$ 911,875	$ 95[illegible]	1,144,045	$ 1,372,854	$ 1,441,496	$ 1,441,496
Overage		$ 367,052		$ 116,100	$ 116[illegible]	116,100	$ 116,100	$ 116,100	$ 116,100
Non-Rate Revenue		$ 87,217	$ -	$ 77,182	$ 80,086	$ 93,433	$ 109,450	$ 114,255	$ 114,255
Total Revenue		$ 1,171,337	$ 958,947	$ 1,105,156	$ 1,149,556	$ 1,353,578	$ 1,598,403	$ 1,671,851	$ 1,671,851
Revenue Summary									
Existing		$ 1,171,337	$ 958,947	$ 1,105,156	$ 1,149,556	$ 1,353,578	$ 1,598,403	$ 1,671,851	$ 1,671,851
Projected									
Net Revenue (Revenue-Expense)		$ 296,761	$ 28,153	$ 149,472	$ (125,799)	$ (392,764)	$ (54,935)	$ 45,785	$ 132,306
Retained Earnings Balance		$466,478	$664,964	$814,436	$688,637	$295,873	$240,938	$286,723	$419,028
Retained Earnings as Percent of Operating Expens		55%	73%	85%	54%	25%	20%	23%	32%

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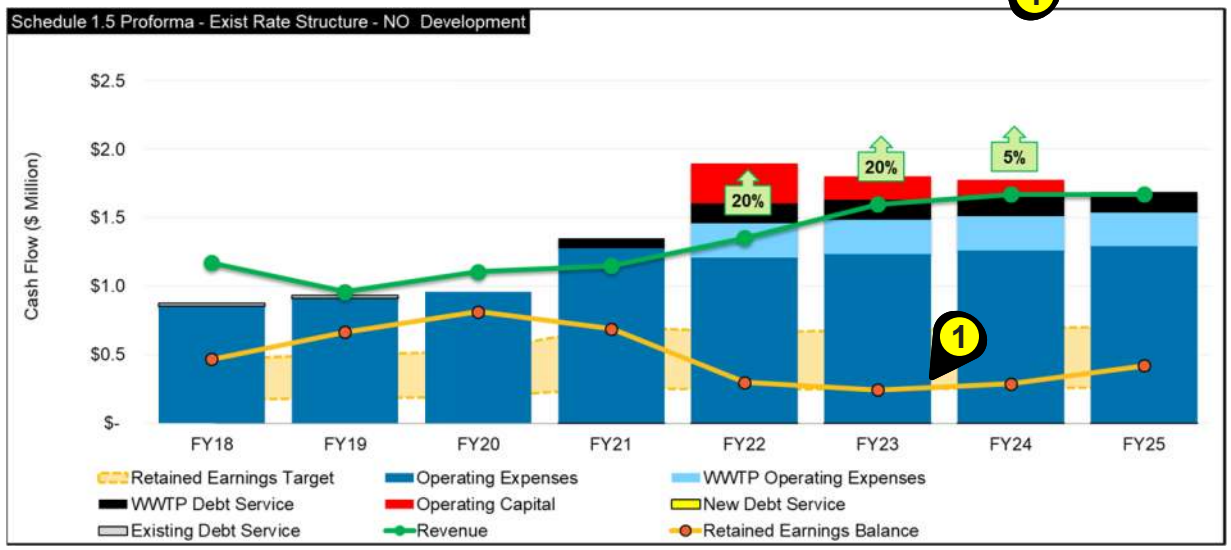

Key points:

1. Rates adjusted to maintain retained earnings balance above 20% of operating costs.
2. Base fee increases are much higher to make up for development revenue. **FY21 same as in alternative A.**

Alternative A without development revenue does not support enterprise without undue burden on existing rate payers*.

User Rates

Description	Type	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Base Fee	Annual	$776	$812	$879	$919	$1,103	$1,323	$1,390	$1,390
Overage	Usage	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100
Increase		$24	$36	$67	$40	$184	$221	$66	$0

Residential Costs

Scenario	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Alternative A1	$ 776	$ 826	$ 1,060	$ 1,100	$ 1,284	$ 1,504	$ 1,571	$ 1,571
Increase		$ 50	$ 234	$ 40	$ 184	$ 221	$ 66	$ -

2

2

** Based upon FY18 financial data, projected usage and development assumptions shown herein.*

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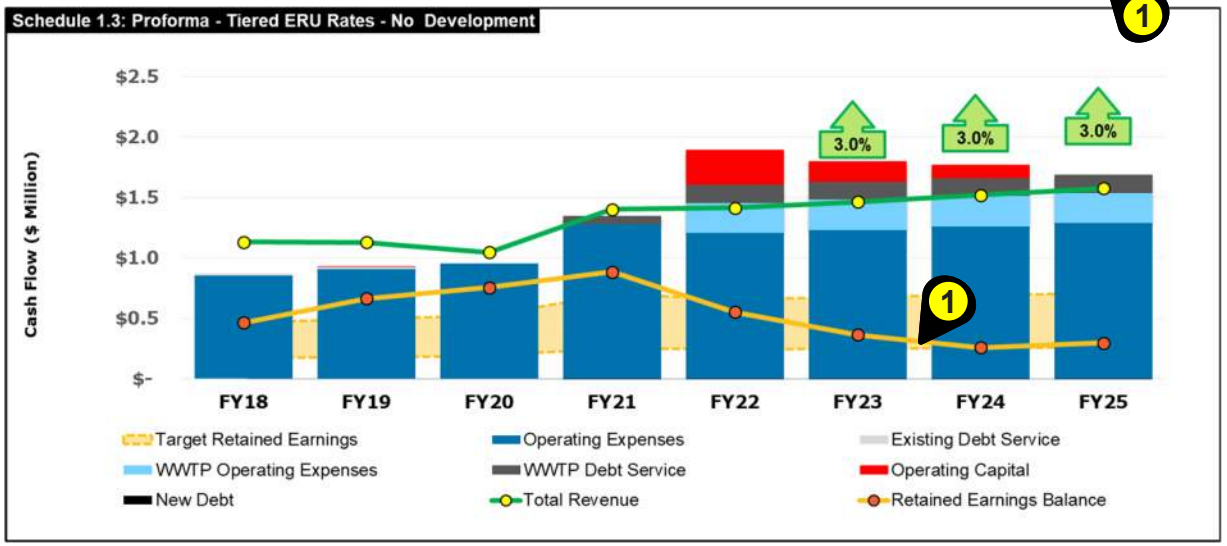
RATE ALTERNATIVE B1 – NEW RATES
NO NEW DEVELOPMENT

REVISED 7-10-2020

Revenue	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
						3.0%	3.0%	3.0%
Base Fee	$ 909,765	$ 958,947	$ 959,868	$ 850,425	$ 850,425	$ 875,938	$ 902,216	$ 929,282
Non-Rate Revenue	$ 222,095	$ 170,811	$ 87,306	$ 96,720	$ 97,359	$ 100,795	$ 104,368	$ 108,084
Tier 1				$ 101,285	$ 103,311	$ 108,538	$ 114,030	$ 119,800
Tier 2				$ 97,926	$ 99,885	$ 104,939	$ 110,249	$ 115,827
Tier 3				$ 257,458	$ 262,607	$ 275,895	$ 289,855	$ 304,522
System Development			$ -	$ -	$ -	$ -	$ -	$ -
Total Revenue	$ 1,131,860	$ 1,129,758	$ 1,047,174	$ 1,403,814	$ 1,413,586	$ 1,466,105	$ 1,520,718	$ 1,577,515
delta previous (Rate Revenue)		$ 49,182	$ 155,516	$ (109,443)	$ -	$ 25,513	$ 26,278	$ 27,066
delta previous (Total Revenue)		$ (2,102)	$ (82,584)	$ 356,639	$ 9,773	$ 52,518	$ 54,613	$ 56,797
Net Revenue (Revenue-Expense)	$ 257,284	$ 198,964	$ 91,491	$ 128,459	$ (332,755)	$ (187,234)	$ (105,349)	$ 37,970
Retained Earnings Balance	$466,478	$664,964	$756,454	$884,913	$552,158	$364,924	$259,576	$297,546
Retained Earnings as Percent of Operating Expens	55%	73%	79%	69%	46%	30%	21%	23%

1



Key points:

1. Rates adjusted to maintain retained earnings balance above 20% of operating costs
2. Base fee increases are much higher to make up for development revenue. **FY21 same as in alternative A.**

Alternative B without development revenue does not support enterprise without undue burden on existing rate payers*.

User Rates

Description	Type	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Base Fee	Annual	$776	$812	$879	$1,011	$1,162	$1,279	$1,279	$1,279
Overage	Usage	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100
Increase		$24	$36	$67	$132	$152	$116	$0	$0

Residential Costs

Scenario	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Alternative B1	$ 776	$ 826	$ 1,060	$ 1,212	$ 1,334	$ 1,574	$ 1,605	$ 1,605
Increase		$ 50	$ 234	$ 152	$ 121	$ 240	$ 31	$ -

2

2

** Based upon FY18 financial data, projected usage and development assumptions shown herein.*

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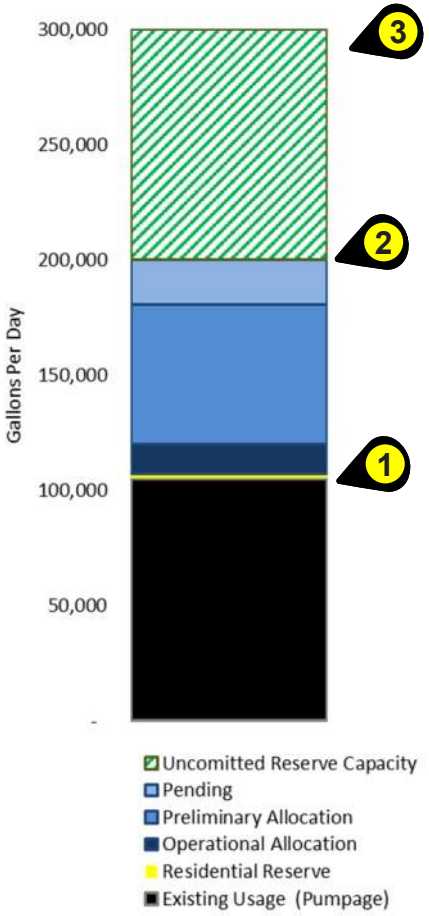
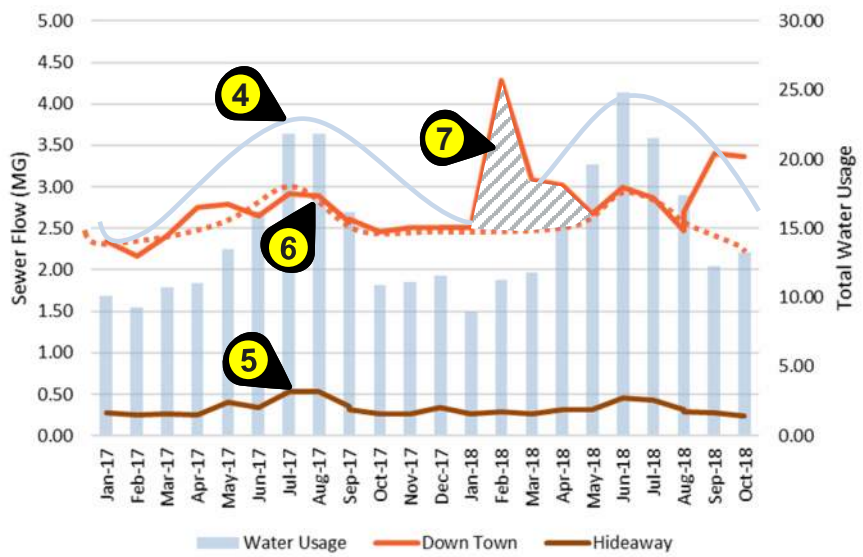
CAPACITY MANAGEMENT AND FLOWS

REVISED 7-10-2020

Capacity Status



Why Infiltration & Inflow is Important



Key Points

1. Based upon 2019 metered usage as pump station totals not available. Bourne should compare pumpage numbers to estimate volume of infiltration & inflow.
2. Allocations based upon Title 5 flow values which are roughly 2X expected daily flows thus understating the amount of available capacity
3. Assumes new WWTP on line
4. Blue bars represent total water usage (not just sewered area), blue curve shows seasonal increase in water usage
5. Amount of sewage pumped from Hideaway Station
6. Amount of sewage pumped from Down Town Pump station, curve represents expected increase corresponding to water use increase
7. Unexpected spike in Feb 2018 most likely due to infiltration & inflow. Feb 2018 precipitation was 7.15 in vs 2.76 for Feb 2017

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FINDINGS, CONCLUSIONS & RECOMMENDATIONS

REVISED 7-10-2020

FINDINGS &CONCLUSIONS

1. Existing rate structure does not accurately reflect usage, some pay too much, some pay too little
2. The June 2019 settlement with Wareham resulted in a ~40% increase in treatment costs.
3. Lack of clarity related to definition of billable units impacts customer equity and cost comparisons, adjustments to new rates will not be even across user types
4. Revenue from existing users at status quo rates will not support the enterprise. Revenue from development is required.
5. Usage data is heavily skewed from seasonal aspect, water district reads semi-annually which would allow for a much better understanding of seasonal influence.
6. The operations and management of the Bourne Sewer System has become considerably more complicated with the addition of the new WWTP

Coastal Community Sewer Costs

Town	Cost
Scituate	$563
Wareham	$596
Statewide Average	**$862**
Plymouth	$990
Bourne	$1,224
Provincetown	$1,243
Gloucester	$1,302
Cohasset	$1,313

Based upon 2017 Tighe & Bond Sewer Rate Survey, annual costs based upon 120 HCF of usage (~90K gallons)

RECOMMENDATIONS

1. Meet with Buzzards Bay Water District to discuss options for balancing development needs with water conservation. Continue to negotiate IMA with Wareham, revisit cost sharing methodology
2. Retained earnings appears to be sufficient to allow selection of rate Alternative A or B for FY21, confirm projections against FY19 actual and FY20 estimated revenues.
3. Based upon resolution of development issue migrate to new fee structure, discuss timing and administration of fees with town counsel. Incorporate fee structure, timing and requirements into Sewer Regulations, separate out fees for easy adjustment. Reduce Title 5 allocations by 50% to better approximate expected flows, refine as uncommitted reserve capacity diminishes (obtain more accurate information, etc.)
4. Revisit staff roles relative to Wastewater management, adjust responsibilities to meet new requirements
5. Continue to monitor usage, expenses and revenue on annual basis

BOURNE SEWER RATE EVALUATION

Bourne Sewer Commission

July 14, 2020 Workshop

Tighe&Bond

INTRODUCTION

REVISED
7-10-2020

This handout is designed specifically for use in a virtual meeting environment where some participants may be connected by telephone only. The goal is to provide a comprehensive overview of the evaluation in an intentionally condensed fashion to minimize the total number of pages.

Bourne Sewer System History and Overview

Existing sewer system

- Constructed in the 1990's
- Services the Downtown, Taylor Point and Hideaway Village Areas
- Paid by owners through betterments
- Sewage goes to Wareham for treatment through Intermunicipal Agreement (IMA)
- Sewer users are billed based upon a base fee which includes 45,000 gallons of use, anything over that billed at $0.01 per gallon.

New Wastewater Treatment Plant

- Need first identified in early 2000's
- Designed to support projected development in existing sewer service area
- Intended to be fully funded by new growth with no impact on existing rate payers.

Development Fees

- 2006 Existing fee structure established
- 2017 Capacity management policy developed

Project Goals

Rate Evaluation: Determine if new plant costs will be supported entirely by growth.

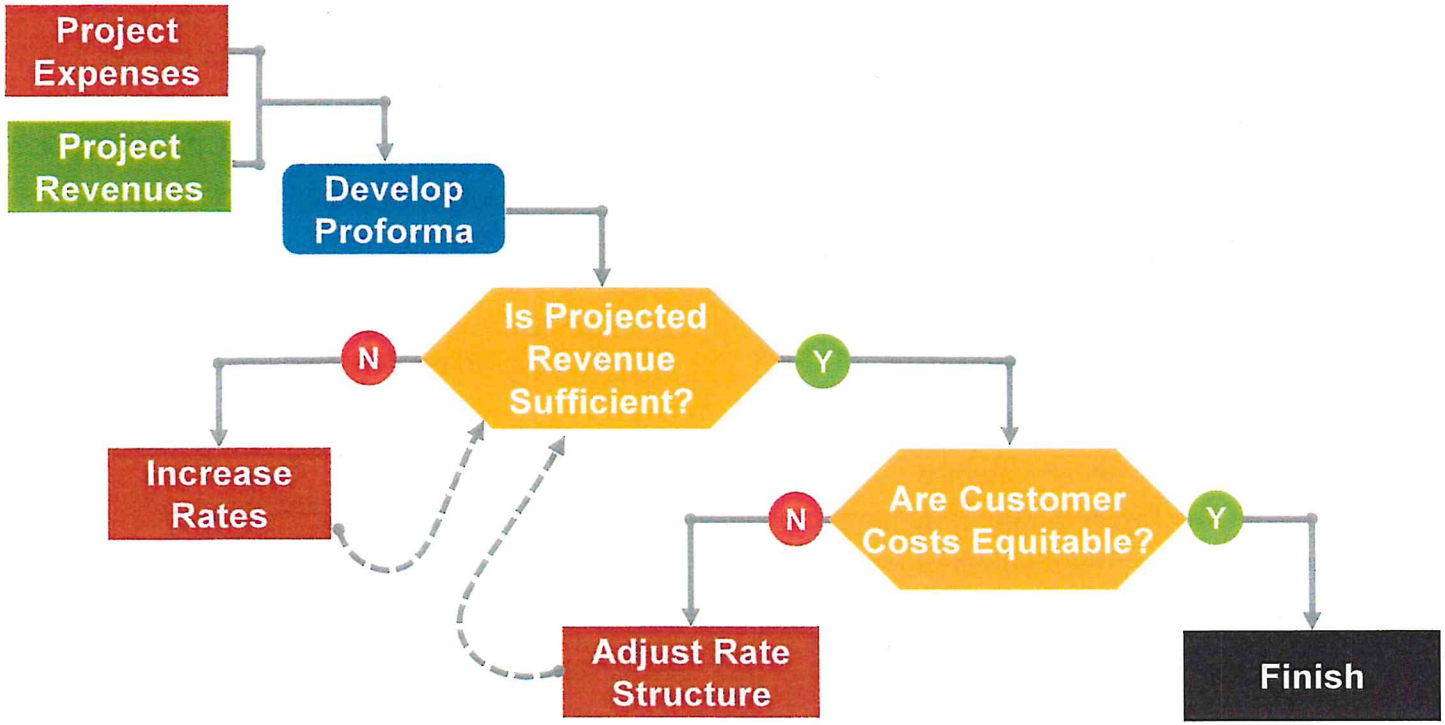
- Add costs of new plant to existing costs
- Estimate future revenue under existing connection fees and from future users
- Determine user cost impacts

Connection Fee and Allocation Evaluation

- Review existing development fees
- Review capacity allocation policy

RATE EVALUATION PROCESS

REVISED
7-10-2020



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PROJECTING EXPENSES

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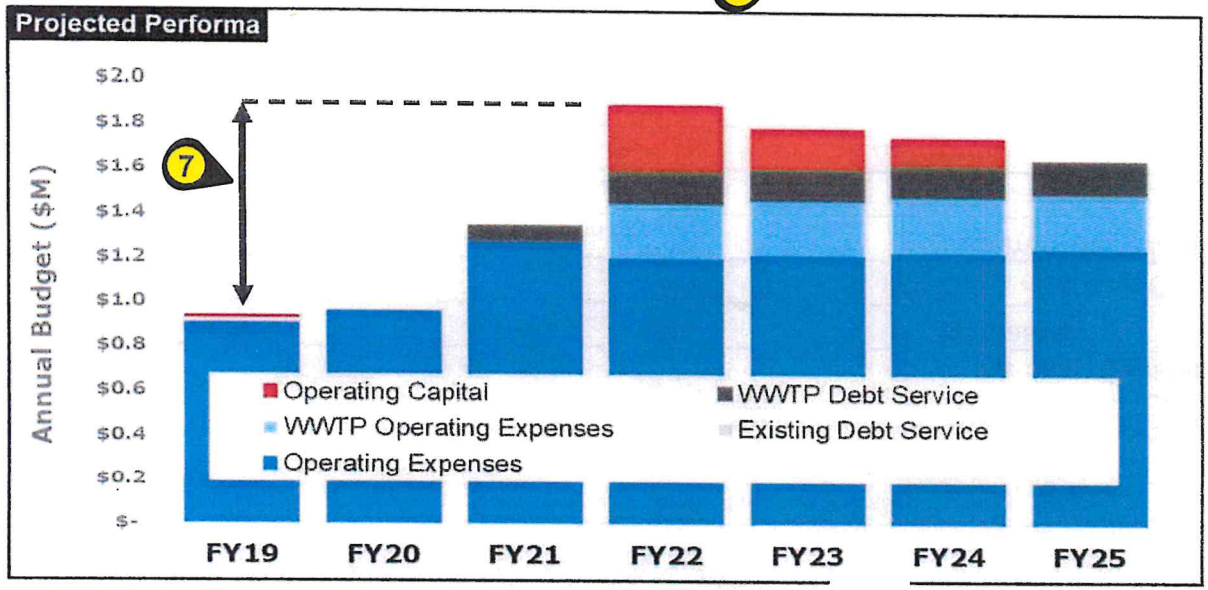
	Actual Values FY19	Actual Values FY20	Budget Values FY21	Projected Values FY22	Projected Values FY23	Projected Values FY24	Projected Values FY25
Operating Expenses							
Wareham - Operating	$213,912	$400,000	$410,000	$420,250	$430,756	$441,525	$452,563
Personnel Services	$170,024	$106,494	$197,380	$243,315	$249,397	$255,632	$262,023
Wareham - Capital	$188,478	$188,478	$188,478	$188,478	$188,478	$188,478	$188,478
Transfer Out (Indirects)	$128,607	$128,607	$140,944	$145,877	$150,983	$156,267	$161,736
Purchase of Services	$145,524	$92,776	$113,150	$79,796	$81,791	$83,836	$85,932
Other Charges and Expenditures	$47,408	$32,614	$105,375	$108,009	$110,710	$113,477	$116,314
Transfer Out (Reserve)	$0	$0	$100,000	$0	$0	$0	$0
Supplies	$12,661	$6,715	$20,028	$20,616	$21,223	$21,851	$22,498
Subtotal	$906,615	$955,684	$1,275,355	$1,206,341	$1,233,339	$1,261,066	$1,289,545
Delta Previous	3.4%	0.0%	9.6%	-5.4%	2.2%	2.2%	2.3%
Capital							
Operating Capital	$3,679	$0	$0	$290,000	$170,000	$115,000	$0
New Debt Service	$0	$0	$0	$0	$0	$0	$0
Existing Debt Service	$20,500	$0	$0	$0	$0	$0	$0
Subtotal	$24,179	$0	$0	$290,000	$170,000	$115,000	$0
New WWTP							
Operating Expenses	$0	$0	$0	$250,000	$250,000	$250,000	$250,000
Debt Service	$0	$0	$72,000	$146,776	$146,776	$146,776	$146,776
Subtotal	$0	$0	$72,000	$396,776	$396,776	$396,776	$396,776
TOTAL EXPENSES	$930,794	$955,684	$1,347,355	$1,893,117	$1,800,115	$1,772,843	$1,686,321



Key points:

1. Operating expenses projected to increase by about 3.5% annually
2. Wareham costs based on June 2019 settlement agreement. Cost escalates 2.5% annually
3. Plant O&M cost based upon estimate, actual cost will vary based upon future contracts costs and actual startup – based upon March 2021 completion
4. Based upon FY21 budget, should replace with information from schedule C.
5. Operating Capital reflects deferred projects including $100k Infiltration & Inflow investigation (MADEP required).
6. Based upon Budget, actual costs likely to be lower. For FY19 the actual expenditure was 77% of budget.
7. Budget levels nearly double by FY22 which tends to bring out any inequities in a water or sewer rate structure

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PROJECTING REVENUE

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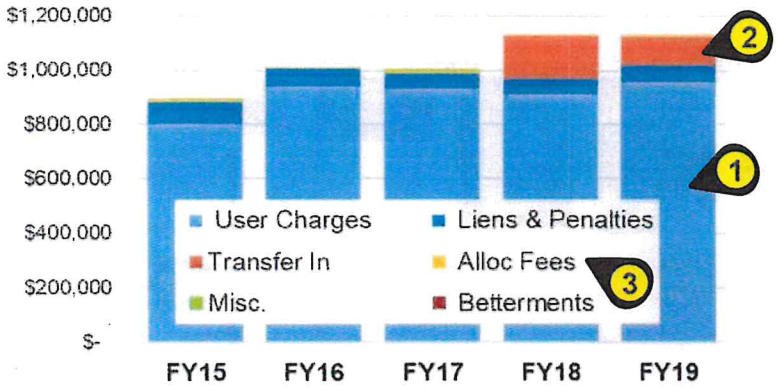
Historic Revenue by Source



Key points:

1. The majority of revenue has come from user charges
2. In the past, transfers were used to minimize rate increases
3. Once debt and CIP costs hit, development revenue becomes more important.

Projecting Revenue From New and Existing Customers

Existing Customers

User Charges: Based upon analysis of previous years usage data

New Customers (Development) Broken down into two categories:

Known: Projects that the Town is aware of and are in the development process

Projected: Estimated from undeveloped non-residential parcels

User Charges

Known: Based upon flow data provided in application materials or estimated combined with estimated connection year.

Projected: Based upon planning level flow estimates

Development Charges

Known: Based upon data provided in application materials or estimated combined with estimated connection year.

Projected: Based upon planning level data

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PROJECTING REVENUE FROM USER CHARGES

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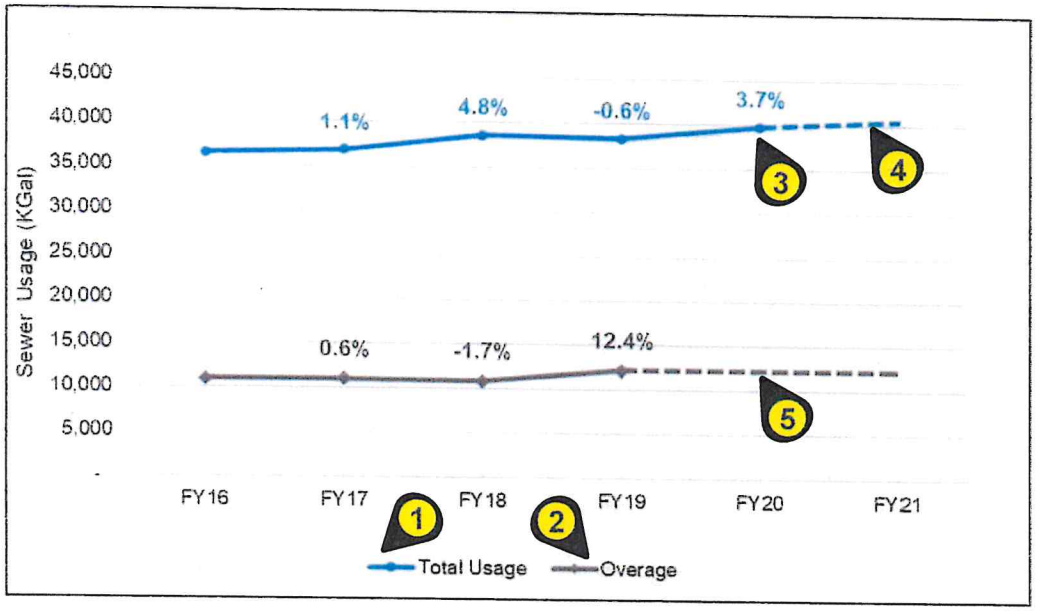
Usage Analysis – Existing Customers



Usage Analysis – Known Development

Development (6)	Flow Year	Units (7)	Allocated (gpd)	Expected Flow (gpd) (8)
Hampton Inn	2020	105	15,243	
Oak Bay Brewery	2020	1	1,661	
Veterinary Clinic	2020	1		
Blended Berries	2020	1	440	
Mahoney's on Main	2020	1	3,465	
Vincent Michienzi (85-93 Main)	2020	1	13,000	6,500
Calamari 25 Perry	2021	120	16,800	8,400
James McLaughlin	2021	1	79	40
MMA Cadet Housing	2021	1	7,070	3,535
Bay Motor Inn	2022	1	11,985	5,993
Choubah Engineering	2022	1	41	21
GENCON/Robert Gendron	2023	109	17,750	8,875
100 Main	2023	121	26,080	13,040
Bourne Scenic Park	2023	20	17,700	8,850
CMP Development LLC	2023	1	46,475	23,238
Total				78,490

Key points:

1. Total amount of water use as measured by Buzzards Bay Water District
2. Amount of usage over the 45K gallons allotted per billable unit under the current rate structure
3. 2020 based upon first 6 months of meter data extrapolated to full year using data from previous years water use.
4. Estimated to increase at 2% annually
5. Overage trends differently than total usage because of masking effect of existing fee structure. Projected to remain at 2019 levels.
6. First year of flow, based upon best estimate. Green indicates project usage appears in 2019 flow data
7. Allocated flow is based upon Title 5 (Septic System planning level flow estimates based upon type of use). Generally considered to be a maximum day flow or about twice the average daily flow
8. 50% of Title 5 flow, considered to be an average daily flow

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PROJECTING REVENUE FROM DEVELOPMENT FEES
FEE STRUCTURES

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Existing Fee Structure

Fee	Amount and Basis
Existing Fee Structure (as of 2006)	
Design Review and Construction Inspection Fee	$1,500 (commercial only)
Commercial Sewer Permit Fee	$150 + $0.010 per square foot of building floor space
Sewer Connection Fee	Annual sewer fee times the number of business units.
Residential Sewer Permit Fee	$100 + $100 for each additional unit.
Sewer System Development Charge	$5,769.678 per acre plus $36.703 per foot of frontage.
2017 Commercial Allocation Policy Fees	
Application Fee	$1,500
Preliminary Allocation Fee	$5,000 plus $1 per projected flow
Operational Allocation Fee	Number of units x current annual base rate sewer fee

Key points:

1. 2006 Sewer Development Charge was based upon betterment structure used to pay for system in the 1990's. This method is designed to distribute the costs of sewer (horizontal) construction.
2. The proposed system development charge distributes the $2.4M of new WWTP debt assigned to the sewer enterprise fund using the widely accepted ERU methodology.

Proposed ERU Based Development Fee

Service Development Charge

1. Determine number of Equivalent Residential units

Divide total plant capacity by average residential usage

Total Capacity	100,000	gpd
Residential usage	150	gpd
Equals	**667**	**ERU's**

2. Determine ERU cost

Cost to be recovered	$2,400,000	
Total ERU's	667	
Equals	**$3,600**	**Per ERU**

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PROJECTED DEVELOPMENT REVENUE

Existing Fee Structure

REVISED 7-10-2020

Known Development

Development	Flow Year	Units	Allocated (gpd)	Expected Flow (gpd)	2017 Commercial Allocation Policy: Application Fee	2017 Commercial Allocation Policy: Preliminary Allocation Fee (calc)	2006 Fee Structure: System Development Charge	Grand Total (2)	Total Billed (3)	Total Remaining (4)
Hampton Inn	2020	100	15,243		$1,500	$21,743	$39,231	$62,474	$48,533	
Oak Bay Brewery	2020	1	1,661		$1,500	$8,756	$8,757	$19,013	$8,756	
Veterinary Clinic	2020	1			$1,500	$6,681	$10,514	$18,694		
Blended Berries	2020	1	440		$1,500	$6,940	$31,816	$40,256		
Mahoney's on Main	2020	1	3,465		$1,500	$9,965	$5,414	$16,879		$16,879
Vincent Michienzi (85-93 Main)	2020	1	13,000	6,500	$1,500	$19,500	$20,810	$41,810	$21,000	$20,810
Calamar/ 25 Perry	2021	120	16,800	8,400	$1,500	$23,300	$79,922	$95,722	$21,800	$73,922
James McLaughlin	2021	1	79	40	$1,500	$6,830	$15,011	$23,341	$6,579	$16,762
MMA Cadet Housing	2021	1	7,070	3,535	$1,500	$13,570	$18,586	$33,656	$13,570	$20,086
Bay Motor Inn	2022	1	11,985	5,993	$1,500	$6,684	$49,184	$57,368		$57,368
Choubah Engineering	2022	1	41	21	$1,500	$6,541	$68,358	$76,399		$76,399
GENCON/Robert Gendron	2023	109	17,750	8,875	$1,500	$24,250	$31,450	$57,200	$24,250	$32,950
100 Main	2023	121	26,080	13,040	$1,500	$32,580	$9,875	$43,955		$43,955
Bourne Scenic Park	2023	20	17,700	8,850	$1,500	$24,200	$58,961	$84,661		$84,661
CMP Development LLC	2023	1	46,475	23,238	$1,500	$52,975	$39,491	$93,966		$93,966
Total				78,490	$22,500	$264,514	$478,379	$765,394	$144,488	$537,757

Projected Development

Land Use Description	Title 5 Estimated Flow (gpd)	Expected Flow (gpd)	Est No Units	Application Fee	Preliminary Allocation Fee	System Development Charge	Grand Total
Vacant, Selectmen or City Council (Municipal)	1,468	734	12	$ 1,500	$ 7,968	$ 18,570	$ 28,038
Developable Commercial Land	1,411	706	12	$ 1,500	$ 7,911	$ 18,273	$ 27,684
Undevelopable Commercial Land	501	250	5	$ 1,500	$ 7,001	$ 5,805	$ 14,306
Undevelopable Commercial Land	736	368	6	$ 1,500	$ 7,236	$ 7,089	$ 15,825
Vacant, Selectmen or City Council (Municipal)	645	322	6	$ 1,500	$ 7,145	$ 19,619	$ 28,264
Vacant, Selectmen or City Council (Municipal)	954	477	8	$ 1,500	$ 7,454	$ 15,593	$ 24,547
Developable Commercial Land	1,015	507	9	$ 1,500	$ 7,515	$ 9,809	$ 18,824
Developable Commercial Land	1,346	673	11	$ 1,500	$ 7,846	$ 15,678	$ 25,024
Developable Commercial Land	1,699	849	14	$ 1,500	$ 8,199	$ 9,639	$ 19,337
Developable Commercial Land	1,668	834	14	$ 1,500	$ 8,168	$ 10,732	$ 20,401
Vacant, Selectmen or City Council (Municipal)	4,252	2,126	35	$ 1,500	$ 10,752	$ 23,962	$ 36,213
Vacant, Selectmen or City Council (Municipal)	23,392	11,696	190	$ 1,500	$ 29,892	$ 90,595	$ 121,986
-	9,061	4,530	74	$ 1,500	$ 15,561	$ 38,683	$ 55,744
Undevelopable Commercial Land	684	342	6	$ 1,500	$ 7,184	$ 14,071	$ 22,754
	48,831	24,415	402	$21,000	$139,831	$298,116	$458,947

Key points:

1. Assumed
2. Consists of the three charges shown which represent Bourne's intended application of existing fees
3. Total received to date
4. Remaining charges anticipated to be billed
5. Parcels selected based upon land use descriptions. Developable residential parcels not included based upon previous discussion relative to zoning restrictions
6. Development fees distributed based upon the assumed timeline

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PROJECTING REVENUE FROM DEVELOPMENT FEES

REVISED 7-10-2020

Proposed Fee Structure

Known Development

Development	Flow Year	Expected Flow (gpd)	No. ERU's	ERU System Development Charge
Hampton Inn	2020			$ -
Oak Bay Brewery	2020			$ -
Veterinary Clinic	2020	-		$ -
Blended Berries	2020			$ -
Mahoney's on Main	2020			$ -
Vincent Michienzi (85-93 Main)	2020	6,600	44	$ 158,400
Calamari/ 25 Perry	2021	8,400	56	$ 201,600
James McLaughlin	2021	40	1	$ 3,600
MMA Cadet Housing	2021	3,535	24	$ 86,400
Bay Motor Inn	2022	5,993	40	$ 144,000
Choubah Engineering	2022	21	1	$ 3,600
GENCON/Robert Gendron	2023	8,875	60	$ 216,000
100 Main	2023	13,040	87	$ 313,200
Bourne Scenic Park	2023	8,850	59	$ 212,400
CMP Development LLC	2023	23,238	155	$ 558,000
Total		78,490	527	$1,897,200

Known Development

Land Use Description	Title 5 Estimated Flow (gpd)	Expected Flow (gpd)	No. ERU's	ERU System Development Charge
Vacant, Selectmen or City Council (Municipal)	1,468	734	5	$ 35,232.00
Developable Commercial Land	1,411	706	5	$ 33,871.20
Undevelopable Commercial Land	501	250	2	$ 12,021.60
Undevelopable Commercial Land	736	368	3	$ 17,668.80
Vacant, Selectmen or City Council (Municipal)	645	322	3	$ 15,472.80
Vacant, Selectmen or City Council (Municipal)	954	477	4	$ 22,896.00
Developable Commercial Land	1,015	507	4	$ 24,357.60
Developable Commercial Land	1,346	673	5	$ 32,304.00
Developable Commercial Land	1,699	849	6	$ 40,771.20
Developable Commercial Land	1,668	834	6	$ 40,039.20
Vacant, Selectmen or City Council (Municipal)	4,252	2,126	15	$ 102,036.00
Vacant, Selectmen or City Council (Municipal)	23,392	11,696	78	$ 561,400.80
.	9,061	4,530	31	$ 217,452.00
Undevelopable Commercial Land	684	342	3	$ 16,413.60
	48,831	24,415	170	$1,171,937

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DEVELOPMENT FEE SUMMARY

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7-10-2020

Existing Fee Structure

	Known	Projected (1)	Total	Debt Service (2)	Stabilization Balance (3)
2020	$ 144,488		$ 144,488	$ -	$ 144,488
2021	$ 211,408	$ -	$ 211,408	$ 72,000	$ 283,896
2022	$ 133,767	$ 45,895	$ 179,662	$ 148,981	$ 314,577
2023	$ 235,827	$ 68,842	$ 304,669	$ 148,981	$ 470,265
2024	$ -	$ 114,737	$ 114,737	$ 148,981	$ 436,021
2025	$ -	$ 137,684	$ 137,684	$ 148,981	$ 424,724
2026		$ 91,789	$ 91,789	$ 148,981	$ 367,533
2027		$ -	$ -	$ 148,981	$ 218,552
2028		$ -	$ -	$ 148,981	$ 69,571
2029		$ -	$ -	$ 148,981	$ (79,409)
Total	**$ 725,490**	**$ 458,947**	**$ 1,184,437**		

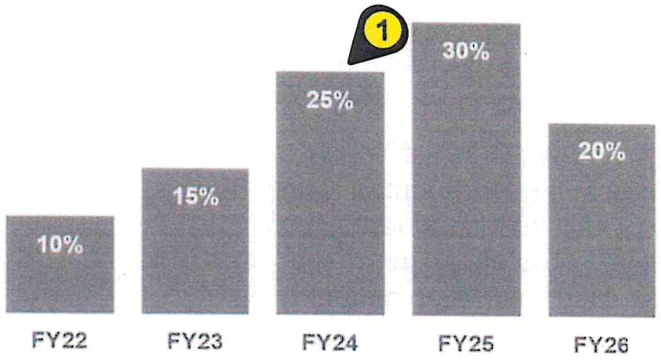
(4)

Proposed Fee Structure

	Known	Projected	Total	Debt Service	Stabilization Balance
2020	$ 144,488.00	$ -	$ 144,488	$ -	$ 144,488
2021	$ 450,000	$ -	$ 450,000	$ 72,000	$ 522,488
2022	$ 147,600	$ 61,200	$ 208,800	$ 148,981	$ 582,307
2023	$ 1,299,600	$ 91,800	$ 1,391,400	$ 148,981	$ 1,824,727
2024	$ -	$ 153,000	$ 153,000	$ 148,981	$ 1,828,746
2025	$ -	$ 183,600	$ 183,600	$ 148,981	$ 1,863,365
2026	$ -	$ 122,400	$ 122,400	$ 148,981	$ 1,836,784
2027	$ -		$ -	$ 148,981	$ 1,687,804
2028	$ -		$ -	$ 148,981	$ 1,538,823
2029	$ -		$ -	$ 148,981	$ 1,389,842
	$ 2,041,688	**$ 612,000**	**$ 2,653,688**		

Key points:

1. Projected development is assumed to follow the timeline shown below (i.e. 25% of all projected development fees are assumed to be collected in FY24).
2. While the goal of System Development charges is to recover the $2.4M in new WWTP Debt assigned to the Sewer Enterprise, the debt service represents the actual cost that must be paid each year
3. Assumes that all development fee revenue is deposited into the Capital Stabilization Fund and used only to pay debt service
4. Existing fee structure does not recover full cost of capital as it was not designed for that purpose



Assumed Projected Development Timeline

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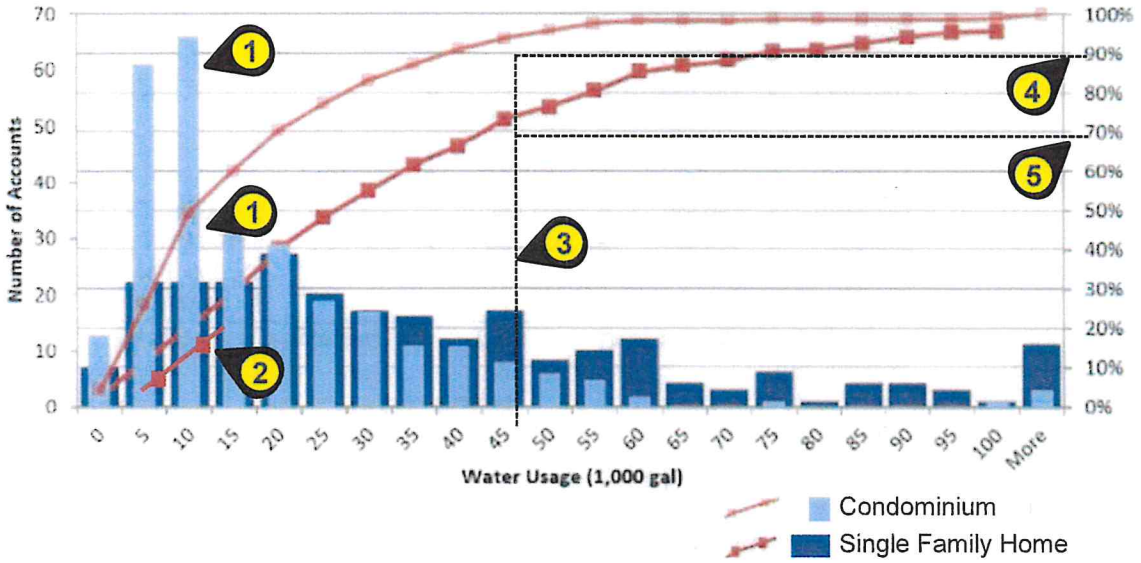
PROJECTING REVENUES – USER FEES

Evaluation of Existing Fee Structure

Residential Condo and Single-Family Usage Evaluation



REVISED 7-10-2020

Key points:

1. Example data point. This shows that out of all the condominium customer accounts, 65 of them (or 50% of them) used a total of 10,000 gallons of water in 2018.
2. Similarly, 21 of the single family customers (~20% of them) also used 10,000 gallons of water in 2018. This means condo's use less water than houses.
3. Bourne's current sewer user rate includes 45,000 gallons of usage before customers are charged for overage.
4. Usage data appears to be heavily skewed by seasonal aspect. This is exacerbated by the fact that usage is only billed once per year.

Pros and Cons of existing rate structure

The generous usage allowance means most residential customers never exceed the minimum charge.

Users are effectively paying for more usage than than they actually need.

Residential Usage

- MADEP target max usage = 65 gallons per person per day for residential. This equals 94,000 gallons per year.
- 50,000 gallons per year equals 2 people at 65 gallons per person per day or average family at 50 gpd
- 20,000 gpd example is seasonal cottage

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PROJECTING REVENUES – USER FEES

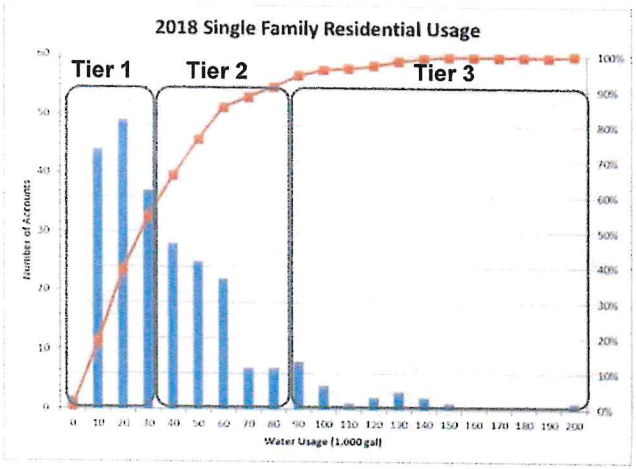
REVISED
7-10-2020

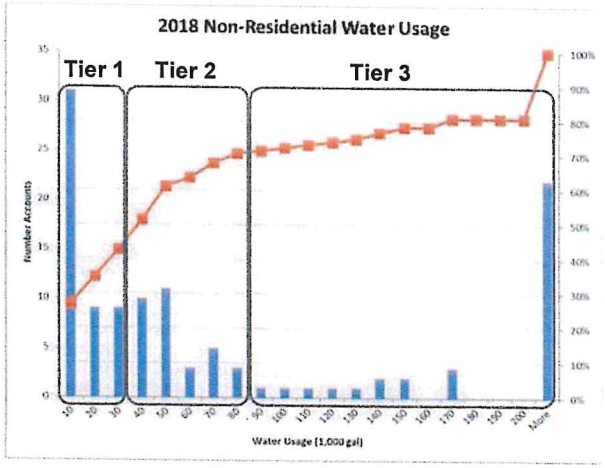
Alternative Rate Structure Development

The existing rates charge by the number of billing units, however this is not defined for non-residential customers which results in inconsistent user costs. As an alternative, a rate structure that maintains the base rate and a usage charge was developed. Many systems use base charges that increase according to the size of the water meter, this reflects the fact that larger users have a proportionally larger impact on system operations and costs. Since Bourne does not own the water system, this information was not available, thus the same Equivalent Residential Unit (ERU) method was used to establish the number of ERU's per customer. The customer's base charge would equal the number of ERU's times the Base Fee ($600 per ERU in FY21).

With Tiered (or stepped) rates, the usage portion of the customers bill increases with the amount of usage. This is commonly used to encourage water conservation. The proposed tiers are based upon evaluation of the existing water use for both single family residential and non-residential users. The steps in a tier are defined by the volumetric increase and rate increase. Tiers volumes were developed based upon analysis of existing water use for both single family and non-residential customers.

Usage Analysis





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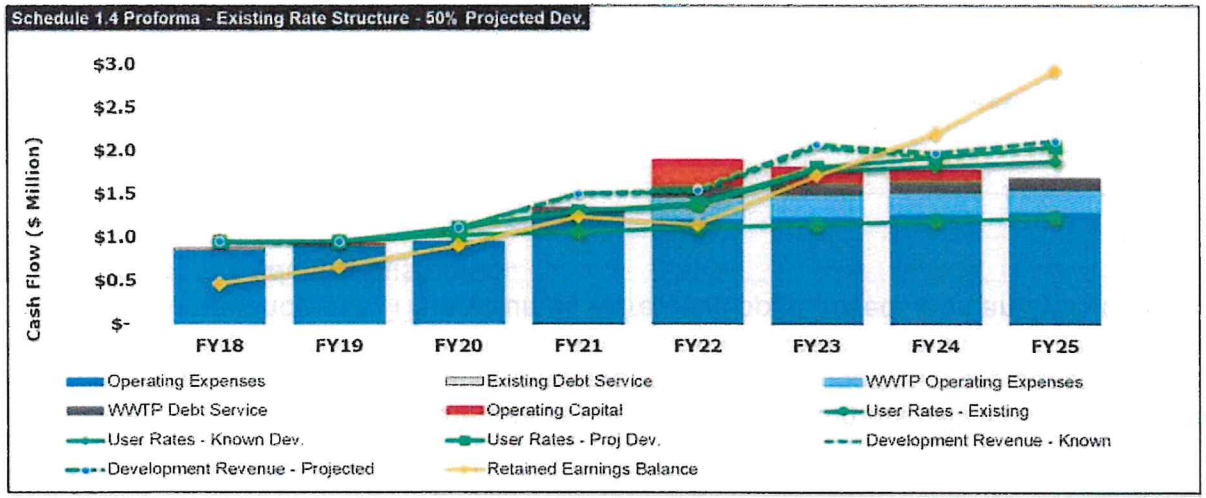
RATE ALTERNATIVE A – STATUS QUO

Existing Rate and Fee Structure (usage and development fees)

REVISED 7-10-2020

Revenue	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
User Rates - Existing	$ 955,370	$ 958,468	$ 1,027,974	$ 1,069,470	$ 1,110,966	$ 1,152,462	$ 1,193,958	$ 1,235,454
User Rates - Known Dev.	$ -	$ -	$ 86,010	$ 232,124	$ 262,923	$ 612,123	$ 630,363	$ 648,603
User Rates - Proj Dev.	$ -	$ -	$ -	$ -	$ 18,677	$ 48,402	$ 100,186	$ 166,058
Development Revenue - Known			$ -	$ 211,408	$ 133,767	$ 235,827	$ -	$
Development Revenue - Projected			$ -	$ -	$ 22,947	$ 34,421	$ 57,366	$ 68,842
Non Rate	$ 170,811	$ 83,202	$ 96,335	$ 102,703	$ 132,132	$ 139,939	$ 148,731	
Total Revenue	$ 1,129,280	$ 1,197,187	$ 1,609,337	$ 1,851,983	$ 2,215,367	$ 2,121,814	$ 2,267,688	
Net Revenue (Revenue-Expense)	$ 35,189	$ 198,486	$ 241,503	$ 333,982	$ (94,358)	$ 562,028	$ 495,747	$ 728,143
Retained Earnings Balance	$466,478	$664,964	$906,467	$1,240,448	$1,146,090	$1,708,118	$2,203,865	$2,932,009
Retained Earnings as Percent of OpEx	55%	73%	95%	97%	95%	138%	175%	227%



User Rates

Description	Type	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Base Fee	Annual	$776	$812	$879	$919	$959	$999	$1,039	$1,079
Overage	Usage	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100
Increase			$24	$36	$67	$40	$40	$40	$40	$40

Residential Costs

Scenario	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Alternative A	$ 776	$ 826	$ 1,060	$ 1,100	$ 1,140	$ 1,180	$ 1,220	$ 1,260
Increase		$ 50	$ 234	$ 40	$ 40	$ 40	$ 40	$ 40

Key points:

1. Most recent data
2. Base fee goes up by $40 per year which is considered to be the status quo in terms of estimating burden on existing rate payers
3. User rate revenue for developments subject to change due to assumptions of billable units.
4. Assumes ***ALL*** known development and **50%** of projected development move forward as previously shown.
5. Average household (2.66 people) using 65 gpd each (State target) or 62.2K gal per year.

Alternative A supports enterprise without undue burden on existing rate payers*.

** Based upon FY18 financial data, projected usage and development assumptions shown herein.*

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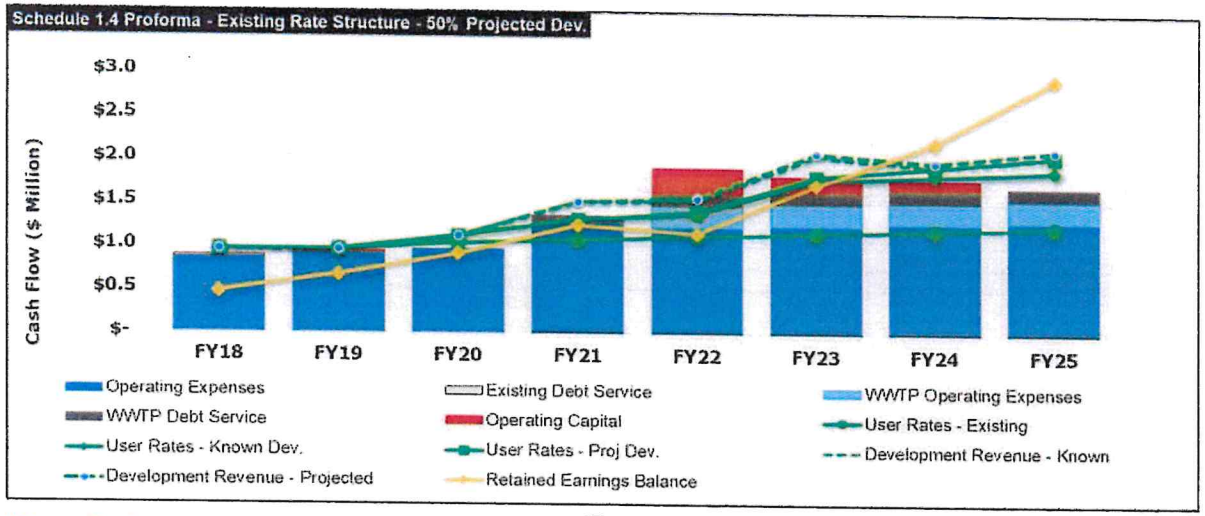
RATE ALTERNATIVE B – NEW RATES & FEES

ERU and Tiered Usage Rates with ERU Based Development Fees

REVISED 7-10-2020

Schedule 1.2 Proforma - Tiered ERU Rates - 50% Projected Dev.

Revenue		FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
User Rates - Existing		$ 955,370	$ 958,468	$ 1,027,974	$ 1,011,795	$ 1,019,216	$ 1,026,785	$ 1,034,505	$ 1,042,381
User Rates - Known Dev				$ 86,010	$ 350,209	$ 351,301	$ 557,640	$ 604,315	$ 611,157
User Rates - Proj Dev					$ 3,198	$ 27,916	$ 54,955	$ 79,887	$ 94,950
Development Revenue - Known				$ -	$ 450,000	$ 147,600	$ 1,299,600	$ -	$ -
Development Revenue - Projected					$ -	$ 30,600	$ 45,900	$ 76,500	$ 91,800
Non-Rate			$ 170,811	$ 70,218	$ 95,930	$ 98,256	$ 115,122	$ 120,675	$ 122,760
TOTAL REVENUE	Total		$ 1,129,280	$ 1,184,202	$ 1,911,131	$ 1,674,888	$ 3,100,002	$ 1,915,883	$ 1,963,048
Net Revenue (Revenue-Expense)		$ 257,284	$ 198,486	$ 228,518	$ 635,776	$ (71,453)	$ 1,446,664	$ 289,816	$ 423,503
Retained Earnings Balance		$466,478	$664,964	$893,482	$1,529,258	$1,457,805	$2,904,468	$3,194,285	$3,617,787
Retained Earnings as Percent of Op Ex		55%	73%	93%	120%	121%	235%	253%	281%



User Rates

Category	Type	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Base Fee	Annual	$776	$812	$879	$575	$575	$575	$575	$575
Tier 1	Usage				$0.0065	$0.0065	$0.0065	$0.0065	$0.0065
Tier 2	Usage				$0.0098	$0.0098	$0.0098	$0.0098	$0.0098
Tier 3	Usage				$0.0130	$0.0130	$0.0130	$0.0130	$0.0130

Residential Costs

Scenario	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Alternative B	$ 776	$ 826	$ 1,060	$ 1,093	$ 1,093	$ 1,093	$ 1,093	$ 1,093
Increase		$ 50	$ 234	$ 33	$ -	$ -	$ -	$ -

Key points:

1. Most recent data
2. Base fee is based upon the number of ERU's (same as current number of units for all residential users, average daily flow / 150 gallons per day for non-residential). ***No usage is included in base fee.*** Annual billing frequency assumed for usage.
3. User rate revenue for developments subject to change due to assumptions of billable units.
4. Assumes ***ALL*** known development and 50% of projected development move forward as previously shown.
5. Average household (2.66 people) using 65 gpd each (State target) or 62.2K gal per year.

Alternative B supports enterprise without undue burden on existing rate payers* - see page 15 for more.

** Based upon FY18 financial data, projected usage and development assumptions shown herein.*

Tighe&Bond

CUSTOMER COST IMPACTS

REVISED 7-10-2020

Land Use Code	LOCATION	2018 USAGE (Gal x 1,000)	2019 USAGE (Gal x 1,000)	Billable Units	No. of ERU's	Annual Bill Existing Rates	Annual Bill Tiered Rates	Delta
Business Condo	271 MAIN STREET (NAPA AUTO PARTS)	41	57	2	1	$ 1,838	$1,033	-$805
Business Condo	258 MAIN STREET (BUZZARDS BAY PROF.)	490	540	17	9	$ 15,623	$11,821	-$3,802
Gasoline Service Stations	246 MAIN STREET (SUPER PETR.)	29	17	1	1	$ 919	$686	-$234
Gasoline Service Stations	160 MAIN STREET (CUMBERLAND FARMS)	485	500	1	9	$ 5,469	$11,301	$5,832
Hotel	Perry Lane (Hampton Inn)		168	1	1	$ 2,149	$2,385	$236
Mixed Use (Primarily Comm.)	7 & 9 ST MARGARETS STREET	148	120	6	3	$ 5,514	$2,911	-$2,603
Mixed Use (Primarily Comm.)	145 MAIN STREET	350	321	3	7	$ 3,377	$7,824	$4,447
Mixed Use (Primarily Comm.)	267 MAIN STREET (LAUNDRY MAT)	2,350	2450	1	43	$ 24,969	$56,201	$31,232
Residential Condo	10-C HORSESHOE LANE	5	3	1	1	$ 919	$595	-$325
Residential Condo	20-H BAKERS LANE	20	16	1	1	$ 919	$679	-$240
Residential Condo	21-S BOG VIEW DRIVE	119	116	1	1	$ 1,629	$1,709	$80
Restaurants/Food Service	57 MAIN STREET (MAHONEY'S ON MAIN ST)	10	321	1	1	$ 3,679	$4,374	$695
Restaurants/Food Service	225 MAIN STREET (BETTY ANNE'S)	94	105	1	2	$ 1,519	$2,141	$622
Restaurants/Food Service	278 MAIN STREET (DUNKIN DONUTS)	560	540	1	11	$ 5,869	$12,971	$7,102
Single Family Residential	18 EVERETT ROAD	15	15	1	1	$ 919	$673	-$247
Single Family Residential	225A MAIN STREET	60	50	1	1	$ 969	$965	-$4
Single Family Residential	24 OLD BRIDGE ROAD	95	100	1	1	$ 1,469	$1,501	$32
Two-Family Residential	17 BAY DRIVE	15	16	2	2	$ 1,838	$1,254	-$584
Two-Family Residential	33 OLD BRIDGE ROAD	74	80	2	2	$ 1,838	$1,833	-$6
Two-Family Residential	34 HARRISON AVENUE	144	133	2	2	$ 2,053	$2,505	$452

1

2

3

Key points:

1. Representative sampling of most common user types showing range of usage.
2. Example of inconsistent application of billable units for existing rate structure
3. Single family typically used as test case for determining rate impacts.

Residential Usage

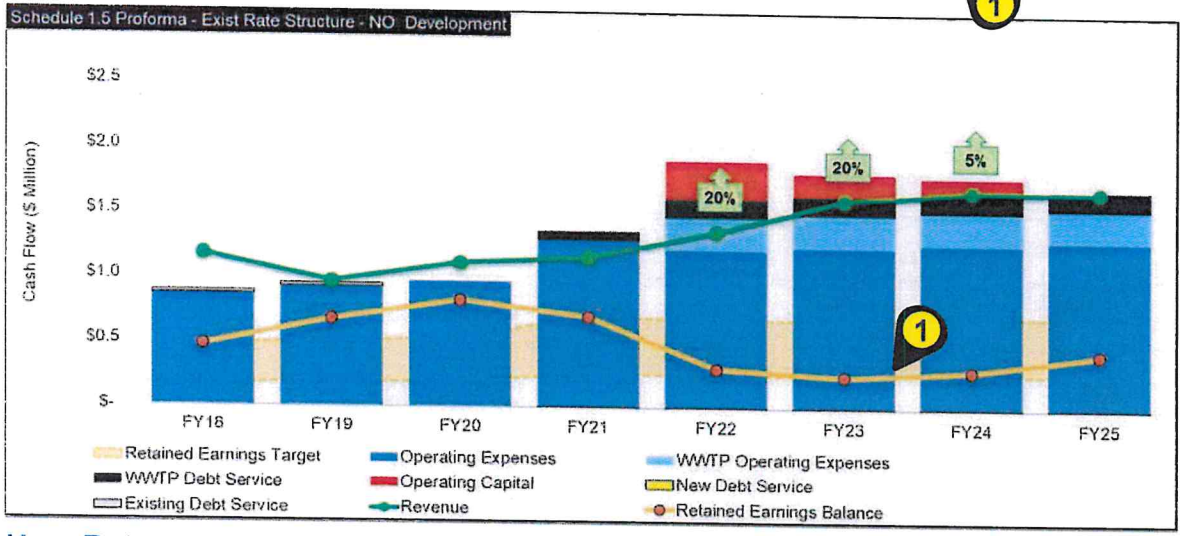
- Bourne has large seasonal component ~40% of single family homes likely to be seasonal
- MADEP target max usage = 65 gallons per person per day for residential. This equals 94K gallons per year for a 4 person household.
- 50,000 gallons per year equals 2 people at 65 gallons per person per day or average family (2.5 people) at 50 gpd
- 15,000 gpd example is likely seasonal

RATE ALTERNATIVE A1 – STATUS QUO
NO NEW DEVELOPMENT

REVISED 7-10-2020

Revenue	Rate Increase	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Base Fee		$ 804,285	$ 958,947	$ 911,875	$ 953	20% 1,144,045	20% $ 1,372,854	5% $ 1,441,496	$ 1,441,496
Overage		$ 367,052		$ 116,100	$ 116	116,100	$ 116,100	$ 116,100	$ 116,100
Non-Rate Revenue		$ 87,217	$ -	$ 77,182	$ 80,086	$ 93,433	$ 109,450	$ 114,255	$ 114,255
Total Revenue		$ 1,171,337	$ 958,947	$ 1,105,156	$ 1,149,556	$ 1,353,578	$ 1,598,403	$ 1,671,851	$ 1,671,851
Revenue Summary									
Existing		$ 1,171,337	$ 958,947	$ 1,105,156	$ 1,149,556	$ 1,353,578	$ 1,598,403	$ 1,671,851	$ 1,671,851
Projected									
Net Revenue (Revenue-Expense)		$ 296,761	$ 28,153	$ 149,472	$ (125,799)	$ (392,764)	$ (54,935)	$ 45,785	$ 132,306
Retained Earnings Balance		$466,478	$494,964	$814,436	$688,637	$295,873	$240,938	$286,723	$419,028
Retained Earnings as Percent of Operating Expens		55%	73%	85%	54%	25%	20%	23%	32%

1



Key points:

1. Rates adjusted to maintain retained earnings balance above 20% of operating costs.
2. Base fee increases are much higher to make up for development revenue. **FY21 same as in alternative A.**

Alternative A without development revenue does not support enterprise without undue burden on existing rate payers*.

User Rates

Description	Type	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Base Fee	Annual	$776	$812	$879	$919	$1,103	$1,323	$1,390	$1,390
Overage	Usage	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100
Increase		$24	$36	$67	$40	$184	$221	$66	$0

Residential Costs

Scenario	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Alternative A1	$ 776	$ 826	$ 1,060	$ 1,100	$ 1,284	$ 1,504	$ 1,571	$ 1,571
Increase		$ 50	$ 234	$ 40	$ 184	$ 221	$ 66	$ -

2

2

** Based upon FY18 financial data, projected usage and development assumptions shown herein.*

Tighe&Bond

RATE ALTERNATIVE B1 – NEW RATES

NO NEW DEVELOPMENT

REVISED 7-10-2020

Revenue	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
						3.0%	3.0%	3.0%
Base Fee	$ 909,765	$ 958,947	$ 959,868	$ 850,425	$ 850,425	$ 875,938	$ 902,216	$ 929,282
Non-Rate Revenue	$ 222,095	$ 170,811	$ 87,306	$ 98,720	$ 97,359	$ 100,795	$ 104,368	$ 108,084
Tier 1				$ 101,285	$ 103,311	$ 106,538	$ 114,030	$ 119,800
Tier 2				$ 97,926	$ 99,885	$ 104,939	$ 110,249	$ 115,827
Tier 3				$ 257,458	$ 262,607	$ 275,895	$ 289,855	$ 304,522
System Development			$ -	$ -	$ -	$ -	$ -	$ -
Total Revenue	$ 1,131,860	$ 1,129,758	$ 1,047,174	$ 1,403,814	$ 1,413,586	$ 1,466,105	$ 1,520,718	$ 1,577,515
delta previous (Rate Revenue)		$ 49,182	$ 155,516	$ (109,443)	$ -	$ 25,513	$ 26,278	$ 27,066
delta previous (Total Revenue)		$ (2,102)	$ (82,584)	$ 356,639	$ 9,773	$ 52,518	$ 54,613	$ 56,797
Net Revenue (Revenue-Expense)	$ 257,284	$ 198,964	$ 91,491	$ 128,459	$ (332,755)	$ (187,234)	$ (105,349)	$ 37,970
Retained Earnings Balance	$466,478	$664,964	$756,454	$884,913	$552,158	$364,924	$259,576	$297,546
Retained Earnings as Percent of Operating Expen	55%	73%	79%	69%	46%	30%	21%	23%

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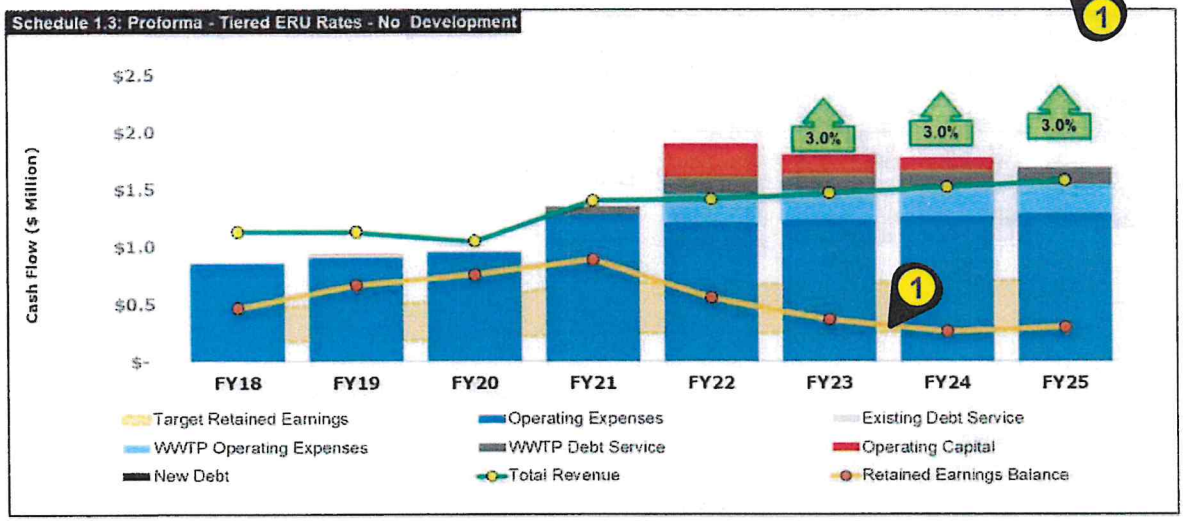


Key points:

1. Rates adjusted to maintain retained earnings balance above 20% of operating costs
2. Base fee increases are much higher to make up for development revenue. **FY21 same as in alternative A.**

Alternative B without development revenue does not support enterprise without undue burden on existing rate payers*.

User Rates

Description	Type	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Base Fee	Annual	$776	$812	$879	$1,011	$1,162	$1,279	$1,279	$1,279
Overage	Usage	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100	$0.0100
Increase			$24	$36	$67	$132	$152	$116	$0	$0

Residential Costs

Scenario	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY25
Alternative B1	$ 776	$ 826	$ 1,060	$ 1,212	$ 1,334	$ 1,574	$ 1,605	$ 1,605
Increase		$ 50	$ 234	$ 152	$ 121	$ 240	$ 31	$ -

2

2

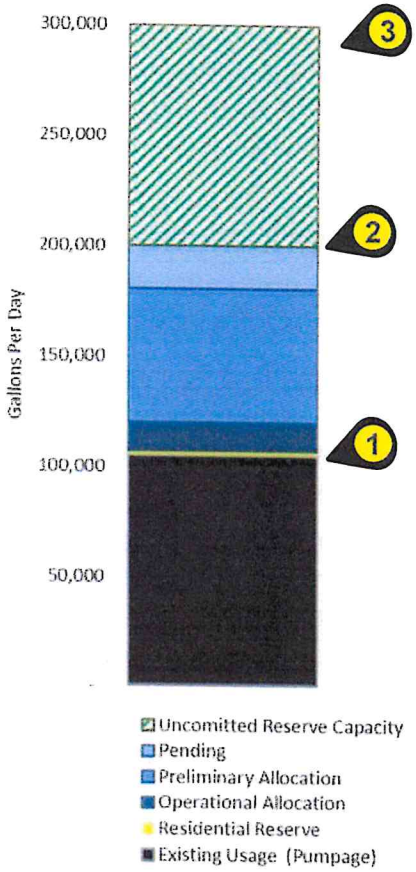
** Based upon FY18 financial data, projected usage and development assumptions shown herein.*

Tighe&Bond

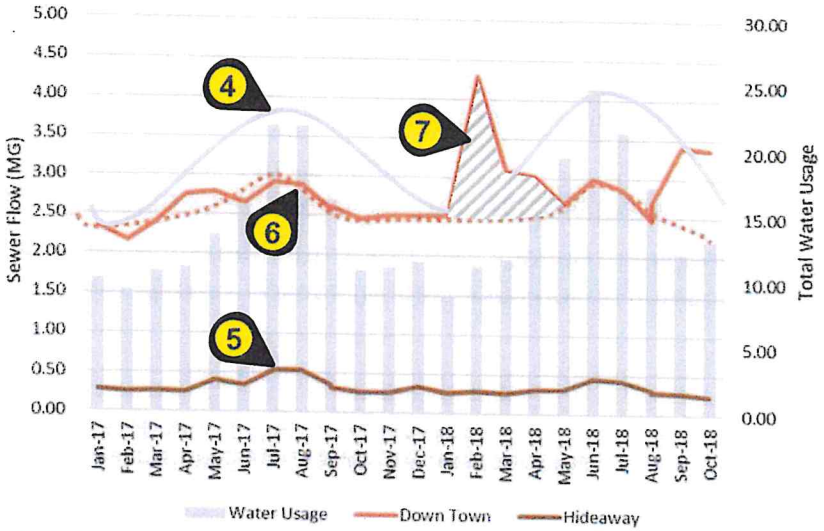
CAPACITY MANAGEMENT AND FLOWS

REVISED
7-10-2020

Capacity Status



Why Infiltration & Inflow is Important



Key Points

1. Based upon 2019 metered usage as pump station totals not available. Bourne should compare pumpage numbers to estimate volume of infiltration & inflow.
2. Allocations based upon Title 5 flow values which are roughly 2X expected daily flows thus understating the amount of available capacity
3. Assumes new WWTP on line
4. Blue bars represent total water usage (not just sewered area), blue curve shows seasonal increase in water usage
5. Amount of sewage pumped from Hideaway Station
6. Amount of sewage pumped from Down Town Pump station, curve represents expected increase corresponding to water use increase
7. Unexpected spike in Feb 2018 most likely due to infiltration & inflow. Feb 2018 precipitation was 7.15 in vs 2.76 for Feb 2017

Tighe&Bond

FINDINGS, CONCLUSIONS & RECOMMENDATIONS

REVISED 7-10-2020

FINDINGS &CONCLUSIONS

1. Existing rate structure does not accurately reflect usage, some pay too much, some pay too little
2. The June 2019 settlement with Wareham resulted in a ~40% increase in treatment costs.
3. Lack of clarity related to definition of billable units impacts customer equity and cost comparisons, adjustments to new rates will not be even across user types
4. Revenue from existing users at status quo rates will not support the enterprise. Revenue from development is required.
5. Usage data is heavily skewed from seasonal aspect, water district reads semi-annually which would allow for a much better understanding of seasonal influence.
6. The operations and management of the Bourne Sewer System has become considerably more complicated with the addition of the new WWTP

Coastal Community Sewer Costs

Town	Cost
Scituate	$563
Wareham	$596
Statewide Average	**$862**
Plymouth	$990
Bourne	$1,224
Provincetown	$1,243
Gloucester	$1,302
Cohasset	$1,313

Based upon 2017 Tighe & Bond Sewer Rate Survey, annual costs based upon 120 HCF of usage (~90K gallons)

RECOMMENDATIONS

1. Meet with Buzzards Bay Water District to discuss options for balancing development needs with water conservation. Continue to negotiate IMA with Wareham, revisit cost sharing methodology
2. Retained earnings appears to be sufficient to allow selection of rate Alternative A or B for FY21, confirm projections against FY19 actual and FY20 estimated revenues.
3. Based upon resolution of development issue migrate to new fee structure, discuss timing and administration of fees with town counsel. Incorporate fee structure, timing and requirements into Sewer Regulations, separate out fees for easy adjustment. Reduce Title 5 allocations by 50% to better approximate expected flows, refine as uncommitted reserve capacity diminishes (obtain more accurate information, etc.)
4. Revisit staff roles relative to Wastewater management, adjust responsibilities to meet new requirements
5. Continue to monitor usage, expenses and revenue on annual basis

TOWN OF PLYMOUTH

SEWER CONNECTION PERMIT POLICY

Effective September 10, 2019

At their meeting on September 10, 2019, the Board of Selectmen voted to adopt the following policy governing the permitting of the Sewer Connections.

Part 1: Sewer Connection Privilege Permit Fee:

- The Administrative Fee to apply for a Sewer Connection Permit will be $100.00.
- The Sewer Connection Privilege Permit Fee will be $10.00 per gallon as computed in Part 3 of this agreement.
- Payment of the above fees in no way exempts new users to pay sewer user charges and other sewer fees as determine by the Board of Selectmen.
- If the applicant does not begin construction within one year of the date the connection fee is paid for, the applicant's sewer allocation will be rescinded and must re-apply under new rate structure and standards. **If the applicant is held up due to obtaining permits or appeals that are no fault of their own, they can be granted up to 3 years additional time to break ground.**
- If within 6-months of the date a connection fee is paid, the applicant will have the ability to withdraw its permit to enter the sewer system and will receive a 25 per cent reimbursement of fees paid.

Part 2: Eligibility for New Sewer Connection Permit

To be eligible for a Sewer Connection Permit, a person or entity will be required to submit a Sewer Connection Application provided by the Department of Public Works Sewer Division. At a minimum, the application shall include the name of the person or entity, the location of the proposed Sewer Connection, the requested gallons of wastewater, the basis of that projection, and an estimated date when construction will be completed.

A non-refundable fee of $100 must accompany the application form to compensate the town for staff work associated with reviewing the application. Upon receipt of the application, the Department of Public Works will do the following:

1. Review the application for accuracy.
2. Verify the flow projections using Title V standards to determine if the applicant is currently using sewer flow in accordance with previously issued Sewer Connection Permits.
3. Applicant has demonstrated the Sewer Connection alignment and installation are in accordance with the Sewer Division installation standards.
4. Determine the applicant's status on payment of prior water fees, sewer fees, rent, real and personal property taxes, and all other fees and taxes due the Town of Plymouth.
5. Verify that the applicant's sewer discharge complies with the town's industrial pre-treatment program.
6. In the case of an applicant that is exempt from local property taxes, refer that applicant to the Board of Selectmen for discussion on payment in lieu of tax options.

Part 3: Issuance of Sewer Connection Permits

It is the policy of the Department of Public Works to issue Sewer Connection Permits, apart from public facilities, on a "first come, first served" basis. This criterion is conditional on sewer capacity available in that sector of the community, and subject to the applicant's compliance with the following conditions at the time of permit issuance:

1. That the applicant pays a Sewer Connection Fee to connect to the sewer system as outlined in Part 1 of this agreement. The fee is established to recoup the cost to the town to construct capital facilities including administrative, permit conditions, engineering and legal expenses associated with providing sewer capacity, sewer line extensions, infiltration and inflow mitigation, and pumping facilities. The fee is based on the number of gallons of sewer flow requested in the Sewer Connection Application.
2. Verification that the applicant is current on all water fees, sewer fees, rent, real and personal property taxes, and all other fees and taxes due to the Town of Plymouth.
3. The execution by the applicant of a Sewer Connection Permit, wherein the applicant agrees to the following special conditions;
   (a.) That the applicant will forfeit the permit and permit fees if the applicant fails to obtain a building permit and commence construction of the proposed project within one year from the date the permit is issued by the Town. If within 6 months of the date a connection fee is paid, the applicant will have the ability to withdraw its permit upon written notification of the applicant to enter the sewer system and will receive a 25 per cent reimbursement of fees paid.

(b.) That the applicant authorizes the installation of a new water meter at the property location if deemed necessary by the Department of Public Works and allows access to the property to permit reading of the meter on a quarterly basis by the town.

(c.) That the applicant agrees to the following process and actions in the event the flows exceed the amount stated on the permit issued by the town:

(d) Applicants who pay connection fees within 90 days of notification will have one year from the date in which the fee was paid to commence construction, or the permit will be rescinded. If the applicant is held up due to obtaining permits or appeals that are no fault of their own, they can be granted up to 3 years additional time to break ground.

4. Sewer Connection Permits are a privilege and can only be allocated by the town of Plymouth Sewer Division. No applicant that has been assigned a Sewer Connection Permit may sell said permit to any other property except for transferring to a new property owner that the permit has been assigned to and meets the terms and conditions of the Sewer Connection Policy.

Part 4: Waiver on Start of Construction Date:

Up to 60 days prior to the one-year condition of commencing construction from the date the Sewer Connection Permit is issued, the applicant may apply for an extension of up to 6 months. The process to obtain a waiver is as follows:

Up to 60 days of the termination date to begin construction, the applicant may write a letter to the Department of Public Works requesting up to a 6-month extension of the Sewer Connection Permit. The request will be forwarded to the Director Public Works for a decision.

Part 5: Payment Schedules and Assessment Schedule:

From time to time an applicant will request to pay Sewer Connection Permit Fee over time. The Board of Selectmen may approve a payment schedule for any applicant that **meets the terms and conditions** of the Town Finance Director, interest is paid at 2% over Town's borrowing rates, and there are appropriate liens to insure payment as prescribed.

Part 6: Mandatory Sewer Connection Bylaw:

Chapter 149

SEWERS

§ 149-1. Selectmen to promulgate regulations.

[HISTORY: Adopted by the Special Town Meeting of the Town of Plymouth 11-20-1989 by Art. 11. Amendments noted where applicable.]

GENERAL REFERENCES

Water -- See Ch. 191.

§ 149-1. Selectmen to promulgate regulations.

A. The Board of Selectmen may adopt sewer regulations for the purpose of governing the use of the Town of Plymouth sewer treatment facility and all its appurtenances, which regulations shall be subject to the civil penalty enforcement provisions of MGL c. 83, § 10 and shall also have the force of a bylaw.

- The sewer regulations shall provide for criminal fines and civil penalties as authorized by the General Laws and may, at the election of the Board of Selectmen, be enforced by criminal or civil prosecution or by noncriminal disposition pursuant to the provisions of MGL c. 40, § 21D.

§ 149-2. Sewer Connections. [Adopted 10-26-2004 ATM by Art. 25]

A. SEWER CONNECTION REQUIRED

Owners of all properties used for human occupancy, employment, recreation or other purposes within an area of the Town **in which there is now located or in the future may be located a common sewer,** ~~to be sewered as identified in the final wastewater facilities plan dated June 16, 1997~~ **provided that said common sewer is within 100-feet of the street front property line** ~~and abutting on any public or private way in which there is a common sewer~~**, is hereby required at his/her expense, if there exists sufficient capacity within the Town's sewer system, to connect said building by sufficient drain to the common sewer as follows:**

(1) **For all new construction of residential, commercial, industrial, and/or mixed-use buildings.** ~~The owner of any occupied structure to be constructed shall, if there exists sufficient capacity within the Town's sewer system, connect said building by a sufficient drain to the common sewer;~~

(2) The owner of any occupied structure served by a Soil Absorption System (SAS) **requesting any change of use, or alteration to a structure that results in increased wastewater flow, including single-family dwellings.** ~~constructed prior to March 31, 1995, if there exists sufficient capacity within the Town's sewer system, may increase the sewer flow from such building only upon connecting such building by a sufficient drain to the common sewer;~~

(3) The owner of any occupied structure**, excluding residential structures containing less than 3-dwelling units,** served by a Soil Absorption System (SAS) **shall be required to connect to the common sewer within 180-days of receiving official notice from the Department of Public Works** ~~constructed subsequent to March 31, 1995, if there exists sufficient capacity within the Town's sewer system, may increase the sewer flow from such building, provided that the Board of Health certifies that the SAS is sufficient to handle the existing sewer flow, and further provided that the increased flow is directed by a sufficient drain to the common sewer~~; and

(4) The owner of any occupied structure served by a Soil Absorption System (SAS) determined by the Board of Health to be failing shall connect said building ~~by a sufficient drain~~ to the common sewer. **[Adopted 10-23-2018 ATM by Art. 16]**

B. OCCUPANCY OF STRUCTURES REQUIRED TO BE SEWERED

No occupied structure hereafter constructed, or any part of an existing occupied structure, that is required to be connected to the common sewer as set forth above, shall be occupied until such connection is completed.

C. VIOLATIONS AND PENALTIES

Any person who violates this Bylaw shall be subject to a fine of $300.00 per day, with each day the violation continues constituting a separate violation. This bylaw may be enforced through the non-criminal disposition procedure of G.L. c.40, §21D. The Director of Public Works, or his designee, or any police officer of the Town, shall be the enforcing agent under this bylaw.

D. RELATION TO OTHER LAW

This Bylaw shall not be construed to limit or constrain in any way the powers of the Board of Health, pursuant to G.L. c.83, §11 or other applicable law, to require connection to the common sewer.

§ 149-3. Sewer Betterment Assessments [Added 4-8-2013 ATM by Art. 30]

A. The Board of Selectmen, acting as sewer commissioners in accordance with G.L. c.83, §14, 15, and 23, may assess betterments upon benefitted properties for all, or such lesser portion as the Board shall determine, of the cost of constructing municipal sewer system facilities;

B. In fixing the amount of such betterments, the Board of Selectmen may, at their discretion, utilize the fixed uniform rate or the uniform unit rate method as set forth in G.L. c.83, §15.

C. Further in accordance with G.L. c.83, §15, the Selectmen may, in assessing such betterments, separate the costs of general benefit facilities, including but not limited to pumping stations, trunk and force mains, from that of special benefit facilities, including but not limited to sewer mains, serving adjacent properties, and may apportion an equitable portion of the costs of the general benefit facilities by the uniform unit method on all properties benefitted by such facilities;

D. The Selectmen may assess and collect estimated betterment assessments for the construction of sewer facilities in accordance with G.L. c.83, §15B.

Part 7: Special Considerations and Appeals

From time to time there will be unanticipated circumstances where the Board of Selectmen will want to modify the conditions in this agreement for a condition not anticipated in this agreement or is in the best interest of the sewer system and community at large. If an applicant has such a case it would have the right to an appeal through the following conditions.

1. A letter would be written from the applicant to the Director of Public Works and Town Manager requesting relief as outlined.
2. The Director of Public Works and Town Manager would have **30 days** to make a recommendation to the Board of Selectmen.
3. The Board of Selectmen would have **30 days** to render a decision.

The intent of appeal section is not created to relieve the intent of this policy, but to consider appeals that are in the best interest of the sewer system and community in special circumstances and hardships.

Part 8: Revising Sewer Connection Policy:

It is recognized that it will be necessary to modify the Revised Sewer Connection Policy from time to time as changes warrant. The Board of Selectmen reserves this right.

APPROVED BY THE BOARD OF SELECTMEN: Date: September 10, 2019. This agreement in no way relives an applicant of all other conditions of being part of the Plymouth Sewer System, or Town, State and Federal Regulations.

Town of Plymouth
Sewer Connection Permit Policy
Fee Schedule
September 10, 2019

Summary of Fees		
Administrative Fee: **$100** *The Administrative Fee applies to all Sewer Connections.*		
Sewer Development Fee:		
Connection Type	*Flow*	*Fee*
Residential Connection – currently on septic, with a certified failed Title 5 system	**ALL FLOWS**	**$ 10 / gallon**
Residential Connection – currently on septic		
Existing Sewer Customer – renovation of space/ increase in sewer flows		
New Sewer Connections		
Development fees are calculated based on Title 5 wastewater flows.		

Construction of Sewer Connections		
The owner shall be responsible for the construction of the Sewer Connection in its *entirety*. All costs and expenses associated with the installation and connection from the building to the Town sewer shall be borne by the owner. All construction means, materials and methods must comply with DPW standards.		
Inspections:		
1 – 2 inspections	$ 0 / inspection	Inspections, coordinated through the DPW Sewer Division, are required for *all* Sewer Connections.
> 2 inspections	$ 50 / inspection	
Street Opening Permits:		
$125 Administrative Fee $150 Utility Installer's License plus applicable Bonds and Insurance	A Street Opening Permit is required for any work within the traveled way and/or right-of-way. Street Opening permits can be obtained through the DPW Engineering Division.	

TOWN OF PLYMOUTH

Department of Public Works
Sewer Division
131 Camelot Drive
Plymouth, Massachusetts 02360
Office: (508) 830-4158
Fax: (508) 732-0238

SEWER CONNECTION APPLICATION CHECKLIST

- ☐ Obtain a "Sewer Connection Application Form" at the Sewer Division 131 Camelot Drive. Applications can also be found on the Towns website under the Sewer Division tab
- ☐ Please read the Sewer Connection Policy before applying for a Sewer Connection.
- ☐ Complete the form, sign and date it. (It must be signed by the property Owner.)
- ☐ Bring the completed form along with a check made out to The Town of Plymouth in the amount of $100 to the Sewer Division office. The application fee is non-refundable.
- ☐ For new construction, submit a copy of the construction plans. For remodeling existing buildings, submit before and after floor plans (non-returnable) and a copy of the Assessor's Field Card.

- Permits will only be considered for approved building lots.
- Fees will be those in effect when the permit application is approved. Please see attached Sewer Connection Policy for Fee Schedule.
- All permits expire one year after issuance if the applicant fails to obtain a building permit unless a waiver is granted.
- Once a completed application packet is submitted to the Sewer Division office, we will review, approve or reject your application within 10 working days. Complicated applications or appeals may require more time for review. Once the review is complete, the DPW will notify you of its determination. Upon approval, you will have 90 days to pay all the fees and pick up your permit at the Sewer Division office.
- Restaurants and other establishments where food is prepared or where wastes contain grease in excessive amounts or any waste, sand or other harmful ingredients which can be discharged and are connected to the wastewater system, shall be provided with a suitable trap or separator. Such traps shall not be required for private living quarters or dwelling units. All traps or separators shall be of a type and capacity approved by the DPW and shall be located to be readily accessible for cleaning and inspection. Grease traps shall have a minimum depth of 4 feet and a minimum capacity of 2,000 gallons and shall have sufficient capacity to provide at least a 24-hour detention period for the kitchen flow. Kitchen flow shall be calculated in accordance with 310 CMR 15.00 (Title V). Grease traps shall be provided with a minimum 24-inch diameter manhole frame and cover to grade over both the inlet and outlet. Grease traps shall be inspected monthly and shall be cleaned when the level of grease is 25 percent of the effective depth of the trap or at least every three months. The owner shall provide written evidence to the Department that all traps are being cleaned and inspected at least every three months.

Bourne Board of Sewer Commissioners

Sewer Policy and Regulations

TABLE OF CONTENTS

Attachments & Forms

Residential and Commercial (alterations only) Use Forms:

Town of Bourne Board of Sewer Commissioners

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The Town of Bourne Board of Sewer Commissioners (BOSC) manages the municipal sewer system in the village of Buzzards Bay, providing sewer services to more than one thousand units daily. The BOSC oversees the allocation of the availability of wastewater disposal and in turn guides the approved development and redevelopments in the Town of Bourne.

The BOSC was created due to a critical environmental need for municipal sewer in the Town, replacing separate septic systems on individual properties in the Buzzards Bay village that contributed to severely contaminated water quality. The BOSC is a five-member board that is comprised of the elected board of selectmen and shall serve until such time as the town adopts legislation creating a board of sewer commissioners.

In 2019, the BOSC set out to codify and amend its various regulations, procedures, and policies. With the onset of a focused and goal oriented Board, a new Town Administrator and Assistant Town Administrator, and several newly appointed Department heads, these regulations were a result of comprehensive and extensive review. The Department of Public Works, the Sewer Department, the Engineering Department, Board of Health, and Town Administration have contributed wholly or partly in order to provide the residents and business owners of Bourne with a safe, practical, and pragmatic document that could guide current and future growth of our municipal sanitary sewer in Bourne.

Goals

The goal of the BOSC is to provide residents and businesses in the town of Bourne with the best quality sewer services available in a way that is both protective of the environment and financially prudent. Expansion of the municipal system by the Town will be guided by the most recently adopted Comprehensive Wastewater Management Plan (CWMP.)

History

For over 30 years the BOSC has consistently delivered efficient sanitary sewer services to over a thousand units every day with fiscal integrity in a manner that protects and promotes public health. BOSC's system comes from an extensive focus on water quality and a desire to promote business growth in the downtown village of Buzzards Bay. Since 1990, the Town of Bourne has sent up to 200,000 gallons per day (gpd) to the Town of Wareham Wastewater Treatment Plant (WWTP) on the Agawam River. In 2015, the Town undertook the responsibility of constructing its own WWTP at Queen Sewell park after several feasibility studies going as far back as 2005. Completion of the WWTP is expected in April 2021 and will allow another 100,000 gpd for expansion of the municipal sewer system.

1.0 USE OF SEWERS

1.1 These Sanitary Sewer Regulations are promulgated pursuant to Chapter 117 of the Acts of 2012. ~~M.G.L. ch. 83, §10, and shall also constitute a pricing structure adopted pursuant to M.G.L. ch. 40, §39J.~~

1.2 The use of all public sewers in the Town shall be controlled by the Department of Public Works Sewer Division and policy decisions by the Board of Sewer Commissioners. No person shall, without prior authorization from the DPW and/or the Board of Sewer Commissioners, uncover, make any connection with or opening into, alter, or disturb the Town's wastewater systems.

1.3 Rates and Fees

A. Allocation Fees

Allocations fees are based on the Allocation Policy as set forth by the Board of Sewer Commissioners. The charge is a specified amount of wastewater treatment capacity measured in gallons per day (gpd) assigned to a specific project on a specific parcel or parcels upon a majority vote of the Board. All allocations to projects shall be based on state and local regulations. The transfer of all or part of an allocation is prohibited unless approved in writing by the Board. See Attachment C.

B. Sewer Development Fee (Connection Charges)

Applicants must pay a connection charge to connect to the Town's sanitary sewer systems. These charges are one-time charges for connecting to the Bourne sanitary sewer system. The sewer system connection charge, as applicable, must accompany an application for service before Department of Public Works Sewer Division. It is the responsibility of the Applicant or the Applicant's Contractor to install the building sewer from the Applicant's building to the public sewer system according to Department of Public Works Sewer Division.

C. Sewer Rates (User Charges)

All sewer rates are based on the fee established by the Board of Sewer Commissioners on an annual basis plus a surcharge for water use above a designated quantity of the water that passes through the water meter. Consumption is billed at rates in effect at time of use. Current rates are outlined in Attachment A.

D. Sump Pumps

For sump pumps approved to be connected to the public sewer, there is a

separate sewer use charge since flow from sump pumps is not accounted for in typical water meter usage. Sump pumps connected to the public sewer are generally not allowed by the Town of Bourne and would only be considered in extreme cases.

New and Existing Sewer Service Connections:

Minimum application/connection fees for new and existing sewer services are calculated with current connection fees per equivalent unit included in Attachment A.

Fees will apply to all new connections to the public sewer system. The "Re-connect" fee will only be applicable to residential properties and will be used in the case where an existing structure, which is connected to the public sewer system, is completely re-built or substantially renovated in the opinion of the DPW Director.

1.4 Private Sewers

All private sewers in the Town that connect to the public wastewater shall be controlled as to discharge by the DPW Sewer Division, but maintained and operated by their owner(s). Repairs to private sewers, including repairs required to comply with these Regulations, shall be made by an approved drain layer at the expense of the owner.

1.5 Applicable Regulations

Any user of the Town's wastewater system shall be subject to Town rules and regulations and to any charges, rates, fees, and assessments which are or may be established by the Town. Any user of the Town's wastewater system shall also be subject to applicable Federal and State regulations. In instances where various regulations contain different requirements, the most stringent requirements shall be met.

1.6 Wastewater Connections

The DPW Sewer Division recommends that wastewater disposal facilities be connected to its wastewater system whenever the lack of such connections would endanger public health, create a public nuisance, or impair water quality. Connection to the wastewater system shall be subject to the availability of capacity in the system as determined by the Board of Sewer Commissioners. The Commissioners may request that the Applicant perform an analysis to show that the Town wastewater system has adequate capacity to accept the additional flow. Connections shall be made in compliance with all DPW Sewer Division rules, regulations, and specifications, and at the owner's expense.

2.0 ALLOCATION POLICY

2.1 PURPOSE

The Town of Bourne (referred to herein as the Town), through an Inter-Municipal Agreement, may send up to 200,000 gallons per day (gpd) of wastewater for treatment and disposal to a plant owned by the Town of Wareham. Another 100,000 gpd is also available for allocation from a new package treatment plant on the Town's Queen Sewell Park site. The Board of Sewer Commissioners (referred to herein as the Board) controls the allocation of wastewater treatment capacity among parcels in the sewered areas of the Village of Buzzards Bay and assigns allocations on a parcel-by-parcel basis. (See Attachment G)

In order to follow an objective process for remove subjective factors from the process of awarding wastewater allocations, the Board may henceforth apply the following procedures for granting allocations from the Town's Uncommitted Reserve Capacity for the purpose of development and re-development in Bourne's Downtown.

These procedures are in effect primarily for properties proposing a change of use and/or change in septage flow. The guideline for which properties/projects are required to follow these procedures is: if a development has either a change of use or an increase in flow then it requires review by the Board of Sewer Commissioners using the policies and procedures described herein.

Further, in order to ensure that unused allocations will not prevent property owners and/or developers from coming forward with projects that may be in the long term best interests of the Town, the Board hereby establishes a system of periodic reviews of allocations.

2.2 UNCOMMITTED RESERVE CAPACITY

Annually, the Board shall determine the Uncommitted Reserve Capacity.~~, as defined in Section IV~~.

2.3 OBTAINING A PRELIMINARY ALLOCATION

A. The Applicant shall apply to the Board for a Preliminary Allocation on a form attached herein (Attachment C~~2~~). An Application Fee is due when the application is submitted (see Attachement A, page 3~~Section IV~~). The Application is reviewed by staff within 30 days then placed on a Board agenda once deemed complete.

B. If the application requests a flow amount that exceeds the Uncommitted Reserve Capacity (see draft application), the application ~~will be rejected considered incomplete but is otherwise complete it will be dated and put on a waiting list. When allocation becomes available, t~~ may ask for a meeting with Town Staff to discuss possible solutions and then request a meeting with the Board. ~~he Board will consider requests on the waiting list in the order in which they were dated.~~ If enough allocation is available~~, and~~ the application fee is paid, and the project

application will be deemed complete ~~and accepted~~ The Board will consider requests on the waiting list in the order in which they were dated.

C. The Board shall review applications on a first come, first served basis within sixty days after the Application is deemed complete. If the requested allocation is available within the Uncommitted Reserve Capacity, the Board may grant Preliminary Allocations to projects which:

1. Demonstrate evidence of adequate financing;
2. Demonstrate control of the project's parcels (i.e. Purchase and Sale agreement, evidence of ownership);
3. Have preliminary project review with Town Planner;
4. Demonstrate that the requested allocation is based on state and local regulations.

D. If the Board grants a Preliminary Allocation, the Applicant shall have up to two years to initiate construction. A Preliminary Allocation Fee is due within 30 days after the Board grants the Preliminary Allocation.

1. During the two years, the Applicant shall show substantial progress in regular six-month reports to the Board. The Board retains the right to revoke the Preliminary Allocation if the Applicant cannot demonstrate progress, although the Board may allow for the continuation or extension of a Preliminary Allocation in any case. If the Preliminary Allocation is revoked, the allocation shall revert to the Town.
2. When the Board grants a Preliminary Allocation, the Applicant shall pay a Preliminary Allocation Fee as set forth in the Town's Schedule of Rates and Fees.
3. If the Board extends the Preliminary Allocation beyond the designated two-year period, the Applicant shall annually pay a Preliminary Allocation Extension Fee.
4. The Application Fee, the Preliminary Allocation Fee, and any Preliminary
5. After the Board's vote to grant a Preliminary Allocation, the Applicant will be issued a letter signed by the Town Administrator certifying to the existence of a Preliminary Allocation for that specific project/parcel(s) and including any conditions imposed by the Board. The Town Planner, the Building Inspector and the Health Agent will be copied on the allocation letter issued by the Town Administrator.

2.4 FEES

A. During the process of obtaining a Preliminary Allocation, the applicant shall be assessed fees as periodically established by the Board, which is hereby authorized to establish or amend wastewater allocation fees from time to time as follows:

1. Application Fee: due upon application for a Preliminary Allocation.
2. Preliminary Allocation Fee: due within 30 days of the Board's approval of the Preliminary Allocation. The fee shall be based upon the projected wastewater flow.
3. Preliminary Allocation Extension Fee: due within 30 days of the Board's vote to extend the Preliminary Allocation beyond the original two years and shall be paid annually for as long as the extension is continued.

B. When the project connects to the sewer system, the applicant shall pay user fees as designated by the Board of Sewer Commissioners

C. In cases where a Preliminary Allocation expires and a new person applies for capacity for the same project on the same site, the Board may consider previous fees paid by the original person when establishing fees for the new project.

3.0 BUILDING SEWERS AND CONNECTIONS

3.1 Separate Building Sewers

Separate and independent building sewer connections shall be provided for all new or substantially rehabilitated buildings. Where one building stands behind another on an interior lot, and no private sewer is available or can be constructed to the rear of the building through an adjoining alley, court, yard, or driveway, the building sewer may be extended from the front building to the rear building with the approval of the Board of Sewer Commissioners.

3.2 Existing Building Sewers and Building Storm Sewers

With DPW approval, existing building sewers may be used to accommodate new uses which result in changes in volumes or characteristics of wastewater and stormwater. The property owner is required to perform a television inspection of the existing sewer proposed for use prior to reuse. If, in the opinion of the sewer division, the existing gravity sewer pipe is not suitable for reuse it must be replaced with SDR35 PVC pipe. The costs of any inspection and testing required by the DPW as a precondition to such approval shall be at the owner's expense.

3.3 Gravity Discharge to Sewer

All building sewers shall discharge by gravity to the public sewer. In all new or substantially rehabilitated buildings in which any building sewer is too low to permit gravity discharge (other than for a low pressure sewer system), wastewater shall be lifted by an approved means and allowed to discharge by gravity (i.e., not under pressure) to the sewer.

3.4 Backwater Valves

All existing or new building drains from plumbing fixtures liable to backflow from a public sewer, or a private sewer connected to the public sewer, shall be required to have backwater valves installed at the owner's expense. Any plumbing fixture located at an elevation below the top of the manhole on the public sewer serving the fixture shall be considered to be liable to backflow. Backflow valves shall be installed in accordance with 248 CMR Section 2.09(4) of the Uniform State Plumbing Code, as amended. The DPW shall have the right to inspect all backwater values in accordance with Section 6.0 of these regulations. Where backwater values are required, they shall be installed and maintained continuously in satisfactory and effective operation by and at the expense of the owner or user.

3.5 Oil Traps for Commercial and Industrial Garages

Oil traps shall be required on sewers directly or indirectly tributary to the Town's wastewater system from existing or new garages, and other establishments capable of discharging petroleum-based oil or grease, flammable wastes, sand, or other harmful substances. Oil traps shall not normally be required for garages associated with private dwelling units. The determination as to whether an oil trap is required rests with the Town Plumbing Inspector/Building Department and the DPW. All oil traps shall be of a type and capacity approved by the DPW and shall be located so as to be readily accessible for maintenance and inspection. The DPW shall have the right to inspect such facilities in accordance with Section 6.0 of these regulations. Where oil traps are required, they shall be installed and maintained continuously in satisfactory and effective operation by and at the expense of the owner or user.

3.6 Grease Traps

Grease traps shall be required for all restaurants, facilities that prepare and/or package food or beverages for sale or consumption, on or off-site, and any other industrial or commercial establishments which discharge significant amounts of animal or vegetable fat, oil or grease. The discharge concentration shall not exceed 100 milligrams per liter for any building sewer. Such devices shall not normally be required for private dwelling units. The Board of Health Agent will determine whether a grease trap is required. All grease traps shall be of a type and capacity approved by the Board of Health Agent and shall be located so as to be readily accessible for maintenance and inspection. Where grease traps are required, they shall be installed, inspected at least once each month, and maintained continuously in satisfactory and effective operation and in accordance with the requirements of the Uniform State Plumbing Code and the State Environmental Code, Title 5, all by and at the expense of the owner and user. The DPW shall have the right to inspect such facilities in accordance with Section 6.0 of these regulations. All grease trap/interceptors shall

be subject to the following:

(a) All grease traps/interceptors shall comply with the Massachusetts Plumbing and Building Codes. Grease traps/interceptors shall be sized in accordance with 310 CMR 15 (Title V) and the Plumbing and Drainage Institute (PDI) standard G-101, as amended.

(b) In every case where a food establishment is preparing or selling food or business of a similar nature is carried on, a suitable internal grease trap in compliance with Board of Health Regulations must be installed.

(c) Establishments in excess of 150 seats that prepare food must install an external grease interceptor. External grease interceptors shall have a minimum depth of four feet, minimum capacity of 1,500 gallons, have a grease retention capacity of not less than two (2) pounds for each gallon per minute of flow, and provide a minimum 24- hour detention time for kitchen flows. Interceptors shall be easily accessible for maintenance and have 24-inch (minimum) diameter risers to grade. Flow rates from the State Environmental Code, Title V, 310 CMR 15, shall be used to determine the size of a grease interceptor. Other alternative and innovative approved methods of grease removal and disposal may be used if approved by the Board of Health, Plumbing Inspector and DPW. All new facilities must install industrial type grease interceptors.

(d) The owner or his designee shall inspect grease traps/interceptors at least monthly. Internal grease traps must be cleaned monthly by the owner, operator or approved vendor. External grease traps must be pumped by an approved vendor a minimum of every six months and more frequently if required by the Superintendent. Service records must be maintained and readily accessible to Board of Health, and Plumbing agents and inspectors. Failure to clean traps/interceptors and provide evidence of such cleaning shall be considered a violation of these regulations. Failure to maintain adequately sized grease traps/interceptors in proper working order shall result in fines. Repeated failure to maintain adequately sized grease traps/interceptors in proper working order shall result in suspension of the Food Establishment Permit.

(e) Grease traps/interceptors shall be permitted annually, in collaboration with the renewal and inspection for a Food Establishment Permit. There shall be no additional charge for the grease trap/interceptor permit. The grease trap/interceptor permit shall be displayed prominently at the facility.

(f) Disposal of waste materials from grease traps/interceptors shall be by a licensed disposal facility/hauler only. Owner shall maintain records of disposal readily available for review by the Superintendent or his authorized agent.

(g) Any facility with a grease trap/interceptor permit shall post educational

information (e.g., fact sheet, maintenance requirements, etc.) in the vicinity of the grease trap/interceptor.

(h) Any facility with a grease trap/interceptor permit shall keep a maintenance log available at the facility.

(i) The Town Plumbing Inspector and Board of Health Agent have the authority to act on behalf of the Town for the purpose of inspecting grease traps/interceptors, issuing permits for grease traps/interceptors, or issuing violations relative to the operation of a grease trap/interceptor.

3.7 Wastewater - Stormwater Separation

The plumbing of any existing or new building shall be so constructed as to keep all stormwater, surface water, groundwater, roof and surface runoff, subsurface drainage, and allowable non-stormwater discharges separate from the building sewer. In no case shall a building storm sewer be connected to a sanitary sewer. No person shall make connection of roof downspouts, exterior foundation drains, areaway drains, or other sources of surface runoff or groundwater to a building sewer which in turn is connected directly or indirectly to the sanitary sewer. No wastewater shall be discharged into a storm drain. (All wastewater-stormwater separation shall comply with the requirements outlined in the Town's Board of Health regulation regarding Illegal (Illicit) Discharges to any storm drainage system, as well as, the Town's Zoning Bylaw (especially Section 3490) and any other Federal, State, and local laws pertaining to stormwater.)

3.8 Connections to Manholes

Building sewer connections for new or substantially rehabilitated buildings shall not be made directly to publicly-owned manholes unless expressly authorized by the DPW.

3.9 Special Facilities

The DPW may require the owner of a new or substantially-rehabilitated building to construct, operate, and maintain facilities, such as oil traps, particle separators, and wastewater retaining tanks, which will provide for the regulation and control of wastewater discharged to the Town's wastewater system... Such special facilities shall be constructed, operated, and maintained at the owner's expense. The DPW shall have the right to inspect such special facilities in accordance with Section 6.0, to ascertain compliance with these regulations.

3.10 Dewatering Drainage

In no circumstances shall dewatering drainage be discharged into a sanitary sewer. Such discharges shall comply with all other applicable regulations.

3.11 Design and Construction Standards

New building sewers, other private sewers, wastewater retaining tanks, grease traps, oil traps, appurtenances, and other wastewater facilities tributary to the public wastewater system shall be designed and constructed in conformance with DPW standards and specifications, and as depicted in standard Town details. All new building sewers must be constructed of SDR 35 PVC pipe. All materials used must meet approved industry standards and be approved by the Bourne Department of Public Works. In the absence of such specifications or in amplification thereof, the materials and procedures set forth in appropriate specifications of the American Society for Testing and Materials, the WPCF Manual of Practice No. 9 New England Interstate Water Pollution Control Commission Guides for the Design of Wastewater Treatment Works, and Title 5 of the State Environmental Code shall apply.

Building sewer connections shall be laid at least ten (10) feet apart from any new or existing water service connection.

3.12 Approved Drain Layer

All building sewer installation, repair or maintenance work shall be performed by a drain layer who is DPW-approved. A drain layer's bond, using the DPW's standard bond form, as then in effect, must be submitted to the DPW in advance of installation for projects exceeding $10,000.

3.13 Violations to be Reported

All drain layers are required to give a full written report to the DPW within 24 hours if, in the course of performing their work, either (a) prohibited substances are found in a building drain, building sewer, building storm drain, or building storm sewer or plumbing is found that would allow discharges of such substances to a building drain, building sewer, building storm drain, or building storm sewer or (b) interconnections are observed.

3.14 Right to Inspect During Construction

The DPW shall have the right to inspect building sewers and other private sewers, wastewater retaining tanks, grease traps, oil traps, sump pumps and other wastewater facilities tributary to the public wastewater and storm drainage systems, at any reasonable time while construction is underway. The Applicant or his representative must inform the Department twenty-four (24) hours prior to beginning installation procedures, and shall notify the DPW when such facility is installed and ready for final inspection and for connection to the Town's wastewater system. A representative of the Bourne Department of Public Works must approve of the

installation prior to backfilling and final connection. The cost of the inspection by the Town is paid for under the connection charge outlined in Section 1.3B. Connection to the Town's wastewater system shall be made in the presence of a DPW inspector. No facility shall be covered over until approval has been given by the DPW inspector. If the owner fails to notify the DPW in advance, any and all costs to uncover the connection as necessary for inspection by the DPW shall be borne by the owner.

3.15 Bonding Requirements

The DPW shall have the right to require that the owners of proposed building sewers, other private sewers, wastewater retaining tanks, grease traps, and other wastewater facilities tributary to the Town's wastewater system post a bond in a form satisfactory to the DPW and in an amount and for a period of time sufficient to guarantee construction quality and operating performance.

3.16 Application Required for Building Sewer

The owner shall complete a General Sewer Service Application prior to construction, reconstruction, repair, or modification of a new or existing building sewer which connects to a Town sanitary sewer. The application shall be supplemented by building site plans approved by the DPW and by such other permits, plans, specifications and information as the DPW may require. An application/connection fee shall be paid at the time the application is filed. Construction, reconstruction, repair, or modification of the building sewer shall not proceed without authorization by the DPW. A DPW inspector will be assigned to inspect the building sewer and connection to a public sanitary sewer.

The owner shall specify for the Superintendent’s approval the nature of the work to be performed, including the proposed flow to be discharged (calculated in accordance with Title 5 (31O CMR 15)) and the size, material, mode of construction, location, direction and grade of all pipes and appurtenances to convey those flows to the public sewer. The DPW may require the Applicant to hire and pay for a Massachusetts Registered Professional Engineer to evaluate the public sewer downstream of the proposed connection to demonstrate that adequate hydraulic capacity exists in the public sewers to convey the proposed peak flows without surcharging. The Director may also require that the Applicant perform a condition assessment of sewer infrastructure in the downstream flow path of the proposed connection. If, in the opinion of the Superintendent, flow from the proposed project may cause system surcharges and/or overflows, or existing sewer deficiencies in the downstream flow path to further deteriorate, rehabilitation of the downstream infrastructure may be required.

The Superintendent may deny the owner's request to extend, replace or relocate a public sewer, or private sewer, if in the Superintendent's opinion adequate

conveyance capacity cannot be achieved or the proposed work does not conform to the Town's design standards. The Superintendent may require certain conditions as part of the approval of a request to extend, replace or relocate a sewer main or service.

3.17 Connection Permit Required

No user shall connect to the public sewer without a Connection to Sewerage System Permit issued and approved by the DPW and issued by the Massachusetts Division of Water Pollution Control, if applicable.

Prior to issuance of a permit, the Superintendent shall require the Applicant to demonstrate review of and, if applicable, compliance with the requirements of the following, as well any other **applicable** state or local regulations:

3.17.1 301 CMR 11.00, Massachusetts Environmental Policy Act
3.17.2 310 CMR 10.00: Wetlands Protection Act Regulations
3.17.3 314 CMR 7.00, Sewer System Extension and Connection Permit Program
3.17.4 314 CMR 12.00, Operation & Maintenance & Pretreatment Standards for Wastewater Treatment Works and Indirect Dischargers
3.17.5 Cape Cod Commission

3.18 Expenses Borne by the Owner

All costs and expenses incidental to the application form, permitting, design, installation, connection, and maintenance of a building sewer, other private sewers, wastewater retaining tanks, grease traps, oil traps, or other wastewater facilities shall be borne by the owner. The owner shall indemnify the DPW from, and shall reimburse the DPW for, any loss or damage directly or indirectly occasioned by the installation of any building sewer, private sewer, wastewater retaining tank, grease trap, oil trap, or other wastewater facility.

3.19 Maintenance of Building Sewers

The property owner owns the building sewer from the building to the public sewer. The owner of a building sewer shall, at all times, keep such sewers in good repair in order not to cause excessive infiltration, exfiltration or inflow, depletion of groundwater, damage to property, or harm to the public sewers. Maintenance and/or repair of building sewers located under public ways shall be the responsibility of the property owner. However, the Town does have jurisdiction to make repairs to the portion of the building sewer located from the property line to the public sewer as needed at the Town's discretion. Should the Town be required to perform emergency maintenance or repair on any private sewer to eliminate a potential hazard to the

Commented [LT1]: Do we need to change this sentence? Property owner owns up to the property line. Bourne sewer owns everything else.

public, property, or the environment, the owner of said private sewer shall reimburse the Town on a time and materials basis and be subject to the Town's direct labor burden and equipment overhead costs.

3.20 Construction of Below Grade Fixtures

Construction of below grade fixtures shall be in accordance with the Uniform State Plumbing Code Section 248 CMR 10.00 and a plumbing permit is required to complete the work. Plumbing that is subject to the requirements of this section shall include faucets, showers, baths, toilets and washing machine hookups. All plumbing fixtures located at an elevation below the top of the manhole on the public sewer serving the proposed plumbing shall be considered liable to backflow and shall be equipped with a backwater valve in accordance with 248 CMR Section 10.15 (10) (f) of the Uniform State Plumbing Code and 780 CMR Chapter 29 of the State Building Code. The backwater valve shall be installed and maintained at the owner's expense.

3.21 Dye Testing of Building Sewers

Prior to issuance of an occupancy permit, every new building sewer shall be dye tested by the owner or his designee in the presence of a Town inspector to establish that the building sewer is properly connected to the public sanitary sewer. At any time, the DPW may require an owner to conduct dye testing of an existing building sewer to confirm that it is properly connected to the public sanitary sewer. If the building sewer is not connected to the public sanitary sewer, the owner shall use whatever means necessary to determine the actual point of connection. The DPW shall require the owner to eliminate any connection from a building sewer to the MS4 or any other natural outlet {also referred to as an illicit connection) at the owner's expense. Where separate sanitary and storm drains exist, the DPW may also require the owner to dye test in the presence of a Town inspector, a new or existing building storm drain to establish that it is properly connected to the MS4. The DPW may also require the owner to eliminate a connection from a building storm drain to a public sanitary sewer at the owner's expense.

3.22 Sump Pump Connections

Sump pumps may be connected to the public storm drainage system at the discretion of the Superintendent if the Superintendent determines that discharge on-site is not feasible. The owner shall pay a separate sump pump fee. The connection shall be in compliance with the Town's Board of Health regulation regarding Illegal (Illicit) Discharges to any storm drainage system. The Property Owner must also sign the Drainage Release Form included in Attachment B.

3.23 Private Inflow Removal

Illicit sewer connections to the public sewer system, which include stormwater connections associated with basement sump pumps, roof leaders, foundation/cellar french drains, and driveway drains, are prohibited. Illicit sewer connections that are not removed in accordance with DPW Policy will be subject to a fine as outlined in Attachment A. The use charge is assessed on the additional water that is being contributed to the sewer system, but not being registered by the water meter. Duly authorized representatives of the DPW may inspect the property or facilities of any user (including facilities under construction) to ascertain compliance with these Regulations. If inspection access to the property is not permitted by the owner, an additional use charge shall be assessed. The charge will be removed following inspection if an illicit discharge to the sewer system is not identified.

3.24 Pump Stations

Where pump stations are required for extension, replacement, or connection to the public sanitary sewer, the Applicant must adhere to the following requirements, as certified by a Professional Engineer licensed in the Commonwealth:

(a) Pump stations shall be designed and constructed in accordance with the latest version of TR-16 Guide to Wastewater Treatment Works, or other accepted industry-standard design manual practice.

(b) The permittee must provide a full set of buoyancy calculations for pump station wet well and associated underground vaults.

(c) At a minimum, pump stations shall be equipped with the following:

(1) SCADA (Supervisory Control and Data Acquisition) system
(2) Alarm system with visual and audible components mounted outside
(3) Alternative/back-up power
(4) An Odor Control component for stations with a design flow rate higher than 350 gpm.
(5) Flow meter and run-time recorder

(d) Connection to the public sanitary sewer system shall be by gravity, not under pressure unless part of a low pressure sewer system.

(e) Upon completion of construction of the pump station, the Contractor shall provide to the Town copies of as-built drawings and an Operation & Maintenance Manual for the pump station.

(f) The permittee shall be required to enter into an annual operation and maintenance service contract for emergency services after the commencement of operation of the pump station.

(g) The permittee shall provide financial assurance for emergency repair

and a long-term capital fund for replacement of the station or its components before useful life has been expended (see Attachment H for Financial Security Provisions for New Pump Stations).

4.0 WASTEWATER DISCHARGE PROHIBITIONS AND ITEM DISPOSAL RESTRICTIONS

4.1 General Prohibitions

No persons shall discharge or cause or allow to be discharged into a public sewer or into a sewer tributary thereto, any substances, waters or wastes that the DPW has identified as likely, either singly or by interaction with other substances, to:

a) Harm any wastewater system, wastewater treatment facility, or wastewater treatment process;

b) Pass through or be otherwise incompatible with the wastewater treatment process or sludge disposal;

c) Cause a violation of Federal or State discharge permits issued to either the DPW Sewer Division;

d) Cause a violation of water quality standards or otherwise adversely affect the receiving waters;

e) Endanger life, limb or property, or

f) Constitute a health hazard or nuisance.

g) Any liquid or vapor having a temperature higher than one hundred and fifty degrees (150 F)

h) Any water or waste containing fats, wax, grease, or oils, whether emulsified or not in excess of one hundred milligrams per liter (100mg)/L) or containing substances which may solidify or become viscous at temperatures between thirty-two degrees (32 F) and one hundred and fifty degrees (150 F).

i) Any garbage that has not been properly shredded. The installation and operation of any garbage grinder equipment with a motor of ¾ horsepower or greater shall be subject to the review and approval of the DPW Sewer Division.

j) Any waters or wastes containing strong acid iron pickling wastes, or concentrated plating solutions whether neutralized or not. Any waters or wastes containing iron, chromium, copper, zinc, and similar objectionable or toxic substances; or wastes exerting an excessive chlorine requirement, to such degree that any such material received in the composite sewage at the sewage treatment plant exceeds the limits established by the Sewer Commissioners for such materials.

k) Any waters or wastes containing phenols or other taste or odor producing substances, in concentrations which exceed maximum limits which may be established by the Commissioners, after treatment of the composite sewage in order to meet the requirements of the State, Federal, or public agencies or jurisdiction for such discharge to the receiving waters.

l) Any radioactive wastes or isotopes of such half-life or concentration as may exceed limits established by the Commissioners in compliance with applicable State or Federal regulations.

m) Any waters or wastes having a pH in excess of 9.5.

n) Material which exert or cause:
   1. Unusual concentrations of inert suspended solids, such as but not limited to, Fullers earth, lime slurries, and lime residues, or of dissolved liquids, such as but not limited to, sodium chloride and sodium sulfate.
   2. Excessive discoloration, such as by not limited to, dye wastes and tanning solutions.
   3. Unusual BOD, chemical oxygen demand, or chlorine requirements in such quantities as to constitute a significant load on the sewerage treatment works.
   4. Unusual volume of flow or concentration of wastes constituting 'slugs' as defined herein.

o) Waters or wastes containing substances which are not amendable to treatment or reduction by the sewage treatment processes employed or are amenable to treatment only to such degree that the sewage treatment plant effluent cannot meet the requirements of other agencies having jurisdiction over discharge to receiving waters.

Unless otherwise stated herein the provisions of these rules and regulations and any supplementary revisions shall govern all discharges to the sanitary sewer system.

4.2 Prohibited Wastes and Substances

No person shall discharge or cause or allow to be discharged into a public sewer or into a sewer tributary thereto any of those wastes and substances specifically prohibited as identified in 360 CMR 10.023 and 10.024, and/or the Town.

a) Any gasoline, benzene, naphtha, fuel oil, or other flammable or explosive liquid, solid, or gas.

b) Any waters or wastes containing toxic or poisonous solids, liquids, or gases in sufficient quantity, either singly or by interaction with other wastes, so as to injure or interfere with any sewage treatment process, or which will constitute a hazard to humans or animals, create a public nuisance or create any hazard in the receiving waters of the sewage treatment process and system.

c) Any waters or wastes having a pH lower than 5.5, or higher than 9.5, or having any other corrosive property capable of causing damage or hazard to structures, equipment, and

personnel of the sewerage works.

d) Solid or viscous substances in quantities or of such size capable of causing obstruction to the flow in sewers, or other interferences with the proper operation of the sewage works such as, but not limited to, ashes, fleshing, entails and paper dishes, cups, milk containers, etc.

e) **Additional Items that cannot be flushed into the Sewer System:**

- Feminine Hygiene Products
- Wet Wipes
- Floss, Q-tips, and Cotton Balls
- Diapers
- Pills and Medications
- Paper Towels
- Cigarette Butts

4.3 Prohibited Discharges Into Sanitary Sewers

No user shall directly or indirectly discharge or cause or allow to be discharged into any public sanitary sewer or any sanitary sewer tributary thereto any groundwater, stormwater, surface water, roof runoff, subsurface drainage or any Allowable Non-Stormwater Discharge specifically stated as such in the Town's General Permit for Stormwater Discharges from Small Municipal Storm Sewer Systems that can be discharged to the Town's storm drain system.

4.4 Prohibited Discharges Into Storm Drains

No user shall directly or indirectly discharge or cause or allow to be discharged any wastewater into a building storm sewer or a public storm drain.

4.5 Dilution Prohibited

No user shall dilute a wastewater discharge to comply with the provisions of these Regulations.

4.6 Variances

Notwithstanding the limitations set forth in these Regulations, a special variance or amendment to a Sewer Use Discharge Permit may be issued by the DPW Sewer Division, whereby wastes of unusual character or strength may be accepted on an interim basis when, in the opinion of the DPW Sewer Division, unusual or extraordinary

circumstances compel special terms and/or conditions of temporary duration. Such permit shall be issued only when, in the opinion of the DPW Sewer Division, the discharge associated with such a variance or amendment would not cause any interference with or disruption in the wastewater system; would not cause either directly or through interaction, violations of either (a) any Federal discharge permit then held by the DPW, (b) the municipal discharge permit then held by the DPW, or (c) State water quality standards; and would not force additional controls on other dischargers to achieve compliance with effluent limitations. A variance or amendment to a Sewer Use Discharge Permit must be applied for in writing by the proposed discharger. No discharge to be covered by such a variance or amendment shall take place prior to its issuance.

5.0 **INDUSTRIAL DISCHARGE AND PRE· TREATMENT REQUIREMENTS**

5.1 Industrial Discharge Requirements

A. Compliance with MA DEP Regulations

The intent of these Regulations is to comply with Massachusetts DEP regulations governing industrial users. These Regulations shall accordingly be construed to conform with such MA DEP regulations as they now exist or may be amended, including 314 CMR 12.

B. Prohibited Discharges

No industrial user shall discharge or cause or allow to be discharged into any public sewer or into any sewer tributary thereto any prohibited or restricted wastes identified in Section 4.0.

C. Discharge Permits

No user shall discharge industrial wastes into the Town's wastewater system without a Sewer Use Discharge Permit. Every user proposing a new or modified discharge of industrial wastes shall obtain such a permit and shall file a General Service Application prior to constructing a building sewer to convey such wastes.

1) Every user required to obtain a Sewer Use Discharge Permit shall complete and file with both the DPW a permit application form which may be obtained from either the DPW.

2) The DPW shall evaluate the adequacy of data furnished in the application and may require the applicant to provide additional data within a specified

time. After receipt of adequate data, the DPW may issue a permit.

3) The DPW may stipulate special conditions and terms upon which the permit is issued. Permits may contain the following terms and conditions.

   a) Limits on rate, time and characteristics of discharge and requirements for flow regulation, equalization and retention.

   b) Installation of inspection, flow measurement and sampling facilities, and provisions for access to such facilities for inspection and/or sampling related to the permit terms and conditions.

   c) Specifications for monitoring programs which may include flow and measurement, biological tests, data sampling, physical, chemical recording, and reporting schedules.

   d) Pre-treatment requirements and implementation schedules, including schedules for reporting progress towards meeting such requirements.

   e) Periodic submission of discharge reports.

   f) Special service charges or fees.

   g) Other provisions deemed appropriate by the DPW to ensure compliance with these Regulations and with applicable requirements of State or Federal laws.

4) The DPW may change the conditions of a Sewer User Discharge Permit from time to time as circumstances (including Federal or State statutes or regulations) may require.

5) A permit shall not be assigned or transferred.

6) If an industrial user discharges types, amounts or rates of pollutants in violation of these Regulations or its permit, the DPW may revoke its permit in accordance with Section 6.0 of these regulations. If changes in the industrial process have improved the characteristics and/or volume of its discharge, an industrial user may apply to the DPW for modification of its discharge permit.

7) When required by its permit, an industrial user shall submit to the DPW at a designated frequency and in a form acceptable to the DPW a duly signed discharge report containing all information requested by the DPW. Any additional information requested from time to time by the DPW shall also be furnished.

8) The DPW may use the information provided in permit applications, permits and discharge reports as a basis for determining user charges

D. Monitoring Facility Requirements

When required by the DPW, an industrial user or discharger of industrial wastes shall install suitable control or measuring devices together with manholes, chambers, meters, and other appurtenances in 1ts building sewer(s) to facilitate waste observation, sampling and measurement. Such manholes, chambers or meters shall be accessibly and safely located, shall be constructed in accordance with site plans approved by the DPW, shall be installed by and at the expense of the owner, and shall be maintained by the owner in good operating condition at all times: All meters and other measuring devices shall be approved by the DPW prior to installation and use. The facilities shall be constructed in accordance with all applicable construction standards. Construction shall be completed in compliance with a time schedule established by the DPW and Wareham. All records from meters and measuring devices all be kept for at least two years and furnished to the DPW upon request. During construction and after installation, the DPW shall have the right to inspect the facilities in accordance with Section 6.0 hereof.

E. Sampling and Analysis

All measurements, tests and analyses of the characteristics of water and wastes required to conform with these Regulations shall be performed in accordance with Standard Methods. Samples analyzed shall be collected at locations designated by the DPW and by methods acceptable to the DPW. The DPW will stipulate whether a composite or grab sample(s) should be taken.

Notification of Violations

User shall notify the DPW's Superintendent immediately upon discharging wastes in violation of these Regulations or their permits. Each notification shall be followed within 15 days of the date of occurrence by a detailed written statement sent by the user to both the DPW describing the causes of the discharge and the measures being taken to prevent a recurrence. Such notification will not relieve users of liability for any expense, loss or damage to the DPW wastewater system, or for any fines imposed on the DPW due to such discharge.

F. Preventative Measures

Each user shall provide reasonable and appropriate protection from any discharge, including accidental discharges, in violation of these Regulations.

G. Notification to Employees

Users other than the owners of private dwelling units shall inform their employees of the existence of these Regulations. At least one copy of the Regulations shall be permanently and conspicuously posted by each user. Each user shall also permanently post a notice identifying the employee who has been designated as the individual responsible for compliance with, and who should be notified of, any violation of these Regulations.

H. Confidentiality of Data and Documents

All information and data regarding any user, whether obtained from reports, questionnaires, permit applications, permits, monitoring programs, or inspections, may be made available upon request to other governmental agencies and to the public without restriction unless the user makes a specific written request for a more limited distribution. Distribution will be limited only if the user demonstrates to the DPW's satisfaction that the release or communication of such information would divulge methods or processes entitled to protection as trade secrets or would violate any applicable provisions of law.

5.2. Pre-Treatment Requirements

A. Pretreatment Regulations,

All industrial users and discharges of industrial wastes shall comply with Federal, State, and DPW regulations pertinent to industrial pretreatment as they now exist or may be amended in the future. The timing of compliance shall be as directed by the DPW.

B. Pretreatment Facilities

Prior to construction or installation of any pretreatment facilities required by any applicable industrial pretreatment regulations, detailed plans and operating procedures, along with a proposed implementation schedule, shall be submitted to the DPW for review. The review of such plans and op rating procedures will in no way relieve such user from the responsibility of modifying the pretreatment facility as may be necessary to produce an effluent acceptable to the DPW under the provisions of their respective regulations and the requirements of Federal or State agencies. An approved implementation schedule will be incorporated in the Sewer Use Discharge Permit. Any subsequent proposed changes in a pretreatment facility or method of operation shall be reported to the DPW before modification of such facility. Pretreatment facilities shall .be continuously maintained in satisfactory and effective operation. All costs associated with pretreatment facility planning, design, construction, operation and maintenance shall be borne by the owner or user. The DPW shall have the right to inspect such facilities in accordance with Section 6.0 of these regulations.

6.0 ENFORCEMENT

6.1 Inspection

A. Right of Access

Duly authorized representatives of the DPW may inspect the property or facilities of any user (including facilities under construction) to ascertain compliance with these Regulations. Owners or occupants of premises where stormwater or

wastewater is either generated or discharged shall allow properly identified DPW representatives ready access, at all reasonable limes during normal business hours and at such other times as the DPW reasonably suspects that a violation of these Regulations may be occurring, to such parts of the premises as would enable DPW personnel to inspect, observe, measure, sample and test

1) Internal plumbing;

2) Pre-treatment facilities

3) Internal discharge points or connections;

4) Exterior connections;

5) Building sewers;

6) Backwater Values

6) Sump pumps and basement floor drains;

7) Oil traps and grease traps;

8) Any other facilities required by the DPW utilized; to be constructed, installed or

9) Measurement, sampling and testing facilities and procedures that have been required by the DPW;

10) Such other facilities as the DPW reasonably believes may be contributing to a violation of these Regulations; and

11) DPW shall not be held responsible for damage of property when working on stoppages or backups on private property.

The DPW may conduct routine, periodic inspections of certain types of facilities. ~~It~~ It is anticipated that restaurants, other food handling or food processing establishments, service stations, and other entities which deal with petroleum products are particularly likely to be subject to such an inspection program. Other industrial users or generators of high strength wastes (with BOD and TSS concentrations in excess of typical residential wastewater strength) may also be so inspected, as the DPW deems appropriate. Owners or occupants shall provide any labor or equipment needed by DPW personnel to open and inspect oil and grease traps and other facilities.

B. Right of Entry

Upon proper identification and at reasonable times during normal business hours and at such other times as the DPW reasonably suspects that a violation of these Regulations may be occurring, duly authorized representatives of the DPW shall be permitted to enter all private property through which the DPW holds an easement for the purposes of inspection, observation, measurement, sampling, testing, maintenance, repair, or reconstruction of any portion of the Town's wastewater systems lying within said easement. All entry and

subsequent work, if any, shall be done in full accordance with the terms of said easement.

C. Security Clearance

Where a user has security measures in force which would require clearance before any entry to the premises, the user shall make all necessary arrangements to permit DPW personnel to enter without undue delay for the purpose of carrying out their specific responsibilities.

D. Governmental Function

The Town and the DPW shall be deemed to be performing a governmental function for the benefit of the general public. The Town and the DPW shall not be liable for any loss or damage as a result of the performance of such government function.

E. Consequences of Denial or Entry or Access

Where an owner or user, after having received reasonable notice from the DPW, refuses to permit properly identified DPW personnel or designee to enter or have access to premises or facilities in accordance with Sections 6.1A. and 6.1B. above, the DPW may give written notice of its intent to notify the Board of Sewer Commissioners to assess fines and/or terminate sewer service to such user.

F. Indemnification

An owner or user shall indemnify and hold harmless the DPW for any damages or civil liabilities the DPW may sustain or be required to pay in consequence of an injury or property damage resulting from that owner's or user's violation of these Regulations.

6.2 Record Keeping

A. Maintenance of Records

An owner or user shall maintain on its premises all documents pertinent to any of (a) the volume, components or frequency of its discharges to the Town's wastewater system, (b} its industrial pretreatment equipment and procedures, if any, and (c) its design, installation, maintenance, and operation of any special facilities (per Section 5.0), grease or oil traps, building sewers or storm sewers, private sewers, or other wastewater-related facilities or equipment. Every such document shall be maintained for at least five full years following its preparation or receipt by the user.

B. Inspection of Records

Users and owners shall permit duly authorized and properly identify representatives of the DPW to inspect and review, upon reasonable notice and during normal business hours, any and all of the records maintained pursuant to Section 6.2A. above.

C. Consequences of Denial of Access to Records

Where an owner or user, after having received reasonable notice from the DPW, refuses to permit properly identified DPW personnel to have access to records in accordance with Sections 6.2A. and 6.2B. above, the DPW may give written notice of its intent to notify the Board of Sewer Commissioners to assess fines and/or terminate sewer service to such user.

6.3 Monetary Liability

A. Penalties

Any person who violates any provision of these Regulations shall forfeit and pay to the DPW Sewer Division an amount not exceeding five thousand dollars ($5,000) as set by the Board of Sewer Commissioners, pursuant to attached Schedule of Penalties, in accordance with Massachusetts General Laws Chapter 83, section 10, as then in effect. For purposes of this section, each day of a continuous violation shall be deemed to be a separate violation. If a violation is intermittent, each occurrence shall be deemed to be a separate violation.

B. Reimbursement for Costs to DPW

Failure to comply with any portion of these Regulations, or with any permit or order issued thereunder, shall be sufficient cause for the DPW to levy on and collect from each violator any additional cost for any expense, loss, or damage occasioned by such violation, including assessment of penalties or fines levied or imposed on the DPW pursuant to Bourne's Sewer Policy and Regulations, or the United States Environmental Protection Agency.

6.4 Enforcement Actions

A. Multiple Alternatives

When the DPW determines

(a) that a violation of these Regulations or any permit, or (b) any damage to the Town's collection system, is threatened or has occurred, the DPW shall take the following actions, in any sequence or simultaneously:

1) The DPW may issue a request or an order to cease and desist any such violation, and/or an implementation schedule for undertaking specific actions or practices.

2) The DPW may require the user in question to submit a detailed time schedule setting forth specific actions to be taken in order to prevent or correct a violation. The DPW may issue an implementation schedule to the user containing or modifying such specific actions within such times as the DPW deems appropriate.

3) The DPW may issue an order directing the user to pay to the Town penalties and costs in accordance with Section 6.3A. and/or 6.3B. above and/or discontinue sewer service to the property.

4) The DPW may request that the Sewer Commissioners take direct enforcement action by filing suit in any court of competent jurisdiction

pursuant to Massachusetts General Laws Ch. 83, or any other applicable statute or regulation.

5) The DPW may take any other action available to it under any applicable stature or regulation.

6) The DPW may issue citations pursuant to M.G.L. ch. 40 § 210, non-criminal disposition, to the extent allowed by Ordinance.

7.0 APPELLATE PROCEDURES

7.1 Administrative Procedure at the Superintendent Level

A. Informal Conference by the Superintendent

Whenever the DPW issues a Sewer Use Discharge Permit; denies, revokes, modifies, or amends any form of permit or application; requires an owner or user to build or install any particular facility or devices; issues a cease and desist order, a compliance order, or an implementation schedule; or assesses penalties or other charges for non-compliance with these Regulations, any permit, or other lawful requirement, the DPW shall promptly inform the owner or user to whom such action is addressed. Such notice shall be sent first class mail and shall inform the addressee of his/her right to submit, within 14 days after the date of such notice, a written request for reconsideration of the DPW's action.. A request for reconsideration shall be addressed to the DPW Superintendent at the DPW's office and shall set forth in detail the facts supporting it. Such a request shall not have any effect to stay or delay the DPW action, unless the DPW Superintendent provides otherwise in a writing mailed to the entity making the request. Upon receiving a timely request for reconsideration, the DPW Superintendent or his/her designee shall schedule an informal conference with the entity making the request. Written notice of the conference date, time and place shall be mailed to that entity at least 10 (unless waived by the owner) days before the date of the conference, which shall be held no later than 21 days (unless waived by the owner) after receipt of the request. The DPW's superintendent or his/her designee shall rule in writing on the request for reconsideration within 14 days (unless waived by the owner) after completion of the conference.

B. Right to Hearing by the Superintendent

A copy of the ruling on the request for reconsideration shall be mailed to the entity which submitted the request. The ruling shall be accompanied by a notice that such entity has the right to request a hearing before the Board of Sewer Commissioners. The notice shall inform the addressee that a hearing on the DPW's action must be requested within 30 days after the date of such notice, by a writing addressed to the Town Administrator at the Board of Sewer Commissioners' Office.

C. Notice of Hearing by the Board of Sewer Commissioners

Within 45 days (unless waived by the owner) after receiving a timely written request for a hearing, the Board of Sewer Commissioners shall schedule a hearing and shall mail to the entity which requested the hearing, written notice specifying the date, time, place, and subject matter of the hearing. The notice shall also state that the entity requesting a hearing has the right to be represented by legal counsel and to present evidence (in the form of both documents and testimony) at the hearing.

D. Hearing Record and Decision by the Board of Sewer Commissioners

The documents and other evidence offered at the hearing shall constitute the hearing record. The hearing decision shall be based solely on the hearing record and shall be made within 30 days (unless waived by the owner) after the conclusion of the hearing. The decision shall be embodied in a writing which summarizes the matters considered and the reasons for the determination made on each such matter. The written decision shall be signed by the Sewer Commissioners and shall be mailed to the entity which had requested the hearing.

8.0 IMPORT AND ADOPTION

8.1 Wareham Regulations

No provision of these Regulations shall be deemed to contravene or render ineffective any valid Wareham regulation, to areas connected to the Wareham Sewer line.

8.2 Supersedes Prior Regulations

These Regulations take precedence over any prior Bourne Sewer Commissioner and Town of Bourne DPW sewer (or drain) regulations.

8.3 Severability

The invalidity of any section, clause, sentence or provision of these Regulations shall not affect the validity of any other part which can be given effect without such invalid part or parts.

8.4 Right to Amend Regulations

The Sewer Commissioners reserve the right to amend these Regulations in any manner and to establish any more stringent limitations or requirements as are deemed necessary or appropriate.

8.5 Adoption

Effective Date

These Regulations shall be in full force and effect from and after their adoption and publication of notice of their adoption.

Adopted and approved by the Bourne Board of Sewer Commissioners on:

9.0 DEFINITIONS

Terms which are not defined herein shall be interpreted as defined in the most recent edition of Glossary Water and Wastewater Control Engineering, published by the Water Pollution Control Federation (WPCF), Washington, D.C. Throughout these Regulations, shall is mandatory, and may is permissive. Unless the context specifically indicates otherwise, the meaning of the terms used in these Regulations shall be as follows:

Actual Flow	The volume of wastewater from any individual unit (residential, commercial or institutional) connected to the sewers as measured by a certified water meter.
Allocation	A specified amount of wastewater treatment capacity measured in gallons per day (gpd) assigned to a specific project on a specific parcel or parcels upon a majority vote of the Board. All allocations to projects shall be based on state and local regulations. The transfer of all or part of an allocation is prohibited unless approved in writing by the Board.
Allocation Fee:	A non-refundable fee established by the Board to be paid by the Applicant within 30 days of the time the Allocation, Preliminary or Operational, is voted.
Applicant	Shall mean any person or entity applying for sewer service or for a sewer main extension, replacement, alteration, removal or relocation.
Application	A form which shall be completed by the Applicant to request an allocation of wastewater management capacity from the Uncommitted Reserve Capacity. A sample form is attached to this policy statement. The Board may from time to time vote adjustments in the information requested on the form.
Application Fee	A non-refundable one-time fee established by the Board to be paid at the time the Application is deemed complete and accepted. An application shall be deemed complete when it is date stamped and signed by the receiving Town official. Incomplete applications, including applications without the required fee, shall not be processed.
Approval	Shall mean written approval by the Department of Public Works or Board of Sewer Commissioners.
Available	A public sewer or storm sewer shall be considered available when the property upon which a building is situated abuts a street, alley, easement or right of way in which a public sewer is located. If the property line of the subject parcel is more than one hundred (100) feet from the nearest public sewer, application may be made in writing to the Department to declare the public sewer "Not Available."

Biochemical Oxygen Demand or BOD
: Shall mean the quantity of oxygen utilized in 5 days at 20 degrees Celsius(C), expressed in milligrams per liter (mg/l), in the biochemical oxidation of wastewater as determined by a procedure described in Standard Methods.

Board
: The Bourne Board of Sewer Commissioners.

Building
: Shall mean any structure used for human occupancy, employment, recreation other purposes.

Building Drain
: Shall mean that part of the lowest horizontal piping of a plumbing system, which receives the discharge from soil, waste, and other pipes, inside the walls of the building, and conveys it to the building sewer, beginning ten (10) feet outside the inner face of the building wall.

Building Sewer
: Also referred to as house connections, shall mean the pipe which extends from the building drain to the sewer connection conveying wastewater to a public sewer, a private sewer, or other place of disposal.

Building Sewer Connection
: Shall mean the connection of a building sewer to a sanitary sewer owned and operated by the DPW.

Cape Cod Commission
: Shall mean the Regional planning agency that oversees Developments of Regional Impact (DRI) in Barnstable County.

Chemical Oxygen Demand or COD
: Shall mean the oxygen equivalent of the portion of the organic matter that is susceptible to oxidation by a strong chemical oxidant, expressed in milligrams per liter, as determined by a procedure described in Standard Methods.

Collection System
: Shall mean the pipes, conduits, pumping stations, and appurtenances involved in the collection and transport of wastewater and stormwater.

Composite Sample
: Shall mean a combination of individual samples of wastewater taken at pre- selected intervals to represent the integrated composition of the sample source.

Contamination or Contaminated
: Shall mean an impairment in the quality of the water by sewage, industrial fluids or waste liquids, compounds or other materials to a degree which creates an actual hazard to the public health through poisoning or though the spread of disease.

Cooling Water
: Shall mean the water discharged from any system of condensation, air conditioning, cooling, refrigeration, or other system of heat transfer.

Development and re-development
: The construction of improvements on a parcel or parcels of land for any purpose, including, but not limited to institutional, commercial and/or industrial activity.

DPW	Shall mean the Town of Bourne Department of Public Works. However, the Town Administrator has all of the authority and powers of the Department and its Director.
Drain Layer	Shall mean a person or corporation who has met the qualifications set by the Town to install sewer and/or sewer connections.
Dwelling Unit	Shall mean a house, apartment, mobile home or trailer, group of rooms or single room occupied or intended for occupancy as a separate living quarter.
Easement	Shall mean an acquired legal right for the specific use of land owned and maintained by others.
Effluent	Shall mean wastewater or other liquid, partially or completely treated, flowing out of a treatment facility or part thereof.
Excessive	Shall mean more than the limits established in these Regulations, directly or by reference, or more than limits judged by the DPW or Wareham to be acceptable.
Floatable Oil	Shall mean fat, oil, or grease (also referred to as FOG) in a physical state such that it will separate by gravity from wastewater by treatment in an approved pre- treatment facility.
Garage	Shall mean any building wherein one or more motor vehicles are serviced, kept, or stored, and shall include (without limitation) a public or private garage, carport, motor vehicle repair or paint shop, service station, car wash, or any building used for similar purposes.
Garbage	Shall mean the animal and vegetable wastes resulting from the domestic or commercial handling, storage, sale, preparation, cooking, or dispensing of food.
General Service Application	Shall mean the form completed by the property owner or by the owner's agent prior to construction, reconstruction, repair or modification to the Town's sanitary sewers or storm drains.
GPD	Shall mean gallons per day.
Grab Sample	Shall mean a sample of wastewater taken on a one-time basis without consideration of lime.
Grease Trap	Referred to as a grease interceptor by the Commonwealth of Massachusetts, "Uniform State Plumbing Code and Massachusetts Fuel Gas Code", shall mean a receptacle designed to collect and retain or remove grease and fatty substances from wastewater normally resulting from the commercial handling, preparation, cooking, or dispensing of food.
Groundwater	Shall mean a supply of water under the earth's surface contained within or flowing through a geological formation.

Incompatible Pollutant

Shall mean a substance that is not amenable to removal by the rece1v1ng wastewater treatment plant or which may cause damage to the transmission or treatment facilities or adversely impact overall treatment. Incompatible pollutants include, but are not limited to, heavy metals and persistent organics.

Industrial User — Shall mean any user identified in the U.S. Office of Management and Budget Standard Industrial Classification Manual, 1972, as amended and supplemented, under the following divisions:

a) Division A - Agriculture, Forestry, and Fishing

b) Division 8 - Mining

c) Division D - Manufacturing

d) Division E - Transportation, Communication, Electric, Gas, and Sanitary Service

Industrial User Discharge Permit

Shall mean a Sewer Use Discharge Permit for industrial Wastes as defined herein.

Industrial Wastes — Shall mean the solid, liquid, or gaseous wastes generated by industrial users from, but not limited to, industrial manufacturing processes; trade, business, or service activities; or the development, recovery or processing of natural resources. Industrial wastes do not include, and are distinct from, sanitary sewage, uncontaminated cooling water, and uncontaminated industrial process water.

Infiltration — Shall mean water other than wastewater that enters any sanitary sewer (including building sewers) from the ground through means which include, but are not limited to, defective pipes, pipe joints, service connections, or manholes. Infiltration does not include, and is distinguished from, inflow.

Infiltration and Inflow (I/I)

Shall mean the quantity of water from both infiltration and inflow.

Inflow — Shall mean precipitation or surface runoff that enters a sanitary sewer through direct and indirect sources such as downspouts, catch basins, area drains, sump pumps, subsurface drains, interconnections between sanitary sewers and storm drains, etc.

Manhole — Shall mean a vertical access shaft from the ground surface to a sewer or storm drain, usually at a junction, to allow cleaning, inspection, connections, and repairs.

Natural Outlet — Shall mean any outlet into a watercourse, pond, ditch, lake, or other body of surface or groundwater.

Oil Trap — Referred to as a separator by the Commonwealth of Massachusetts, "Uniform State Plumbing Code and Massachusetts Fuel Gas Code", shall mean a receptacle used for separating materials of different specific gravity, such as oil from water and sand from water that meets MWRA Standards.

Owner	Shall mean a person who alone or jointly or severally with others has the legal title to any premises or has care, charge or control of any premises as agent, executor, administrator, trustee, lessee, or guardian of the estate of the holder of legal title.
Person	Shall mean any individual, firm, company, partnership, association, society, corporation, group, or any political subdivision of the Commonwealth.
pH	Shall mean the logarithm of the reciprocal of the hydrogen ion concentration, expressed in moles per liter. Neutral water, for examine, has a pH value of 7 and a hydrogen ion concentration of 10. Any method of measurement approved by the U.S. Environmental Protection Agency may be used.
Pollutants	Shall mean dredged spoil, solid waste, incinerator residue, wastewater, garbage, sewage sludge, chemical wastes, biological materials, radioactive materials, heat, rock, sand, dirt, and industrial, municipal and agricultural waste.
Pollution	Shall mean the presence of any foreign substance (organic, inorganic, or biological) in water which tends to degrade its quality so as to constitute a hazard or impair the usefulness or quality of the water to a degree which does not create an actual hazard to the public health, but which does adversely and unreasonably affect such waters for domestic use.
Preliminary Allocation	An amount of wastewater treatment capacity in gallons per day assigned for a period of two years to a project in its early stages of development. If all appropriate conditions to the project are met, this Preliminary Allocation assures the applicant that the required wastewater treatment capacity will be available when the project is ready for operations. As a condition for retaining the Preliminary Allocation, the Applicant must provide status reports to the Board every six months. The Preliminary Allocation shall be voided if the Applicant does not provide information for these periodic reviews or if the Board determines by majority vote that the mutually agreed upon Milestones are not met. The Board can extend a Preliminary Allocation beyond two years or convert a Preliminary Allocation to an Operational Allocation by majority vote.
Preliminary Allocation Fee	A non-refundable one-time fee based on the project's projected flow. This fee shall be due within 30 days of the Board's vote to grant a Preliminary Allocation.
Preliminary Allocation Extension Fee	A non-refundable fee paid at the time the Board votes to extend a Preliminary Allocation beyond the normal two-year period. This fee shall be due within 30 days of the Board's vote to extend and shall be paid annually for as long as the extension is continued.
Premises	Shall mean a parcel of real estate or portion thereof, including any improvements thereon, which is determined by the DPW to be a single user for purposes of receiving, using, and paying for service.

Pre-Treatment	Shall mean the reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of pollutant properties in wastewater to a less harmful state prior to or in lieu of discharging or otherwise introducing such pollutants into the wastewater system. Dilution is not pre-treatment.
Private Sewer	Shall mean a sewer which is not owned by the Town.
Public Sewer	Shall mean a sewer which is owned by the Town.
Receiving Waters	Shall mean any watercourse, river, pond, ditch, lake, aquifer, ocean, or other body of surface water or groundwater that receives a discharge of wastewater or effluent.
Residential Reserve	Two percent of the systems' designated treatment capacity held in reserve to allow expansion by existing single-family residences. This reserve is to be calculated annually as part of the determination of the Uncommitted Reserve Capacity.
Sanitary Sewage	Shall mean liquid and water-carried human and domestic wastes from buildings, exclusive of ground, storm, and surface water, and industrial wastes and uncontaminated cooling water and uncontaminated industrial process water.
Sanitary Sewer	Shall mean a sewer designed to carry sewage and industrial wastes.
Septage	Material passing through any part of the sewer system, including, but not limited to, the solids, semi-solids, scum, sludge and liquid contents of a septic tank, privy, chemical toilet, cesspool, holding tank, or other sewage waste receptacle. It does not include any material which is hazardous waste.
Sewer	Shall mean a pipe or conduit that carries either wastewater or storm or surface water.
Sewer Commissioner	Shall mean a member of the Bourne Board of Sewer Commissioners
Sewer Extension	Shall mean the addition to a sewer system of a sewer pipe, together with appurtenant works which extend and increase the facilities used for collecting and conveying sewage.
Sewer User Discharge Permit	Shall mean the permit required and issued by the DPW to an industrial user for discharging wastewater to the Town's wastewater system.
Sludge	Shall mean waste containing varying amounts of solids that are removed from water and wastewater through treatment by physical, chemical, or biological processes.
Standard Methods	Shall mean the current edition of Standard Methods for the Examination of Water and Wastewater, as published by the American Public Health Association, American Water Works Association, and the WPCF.
Sump Pump	Shall mean a pump used to remove liquid from a sump or pit, especially water that has accumulated in a basement.

Surface Water	Shall mean all water appearing on the earth's surface exposed to the atmosphere, such as rivers, lakes, streams, and oceans.
Suspended Solids	Shall mean solids that either float on the surface or are in suspension in water, wastewater, or other liquids and are removable by laboratory filtering procedures as described in Standard Methods.
Town	Shall mean the Town of Bourne, Massachusetts.
Toxic Organics	Shall mean organics listed as toxic in Federal or Massachusetts regulations.
Toxic Pollutant	Shall mean any pollutant identified as such in Federal or Massachusetts regulations.
Uncommitted Reserve Capacity	That portion of the wastewater systems' treatment capacity remaining after subtracting the Preliminary Allocations, the Operational Allocations, existing residential flow and the Residential Reserve from the systems' designated treatment capacity. This determination shall begin by comparing all allocations, Preliminary and Operational, with actual flows for the previous fiscal year, on a parcel or project basis. Parcel /project owners with significant differences between allocations and flows shall be requested to explain the difference and describe any changes expected in the next 12 months. The Board reserves the right to reduce the allocation for projects more than three years old demonstrating a significant excess of allocation over flow. In that case, the difference between the new and old allocations shall revert to the Town and be counted in the Uncommitted Reserve Capacity. (See page 3 for parcels with paid betterments and unused flow capacity.) The Board shall determine the amount of the Uncommitted Reserve Capacity annually and designate such Uncommitted Reserve Capacity to be available for the next fiscal year.
Unpolluted Water	Shall mean the total available (permitted) capacity minus allocations granted by the Sewer Commissioners, existing residential flow, and the residential reserve (2% of residential flow).
User	Shall mean any person discharging wastewater directly or indirectly into the public sanitary sewers within the Town.
User Fees or Sewer User Fees	Annual fees established by vote of the Board.
Waiting List	a list of applications that are otherwise complete but have been held because the requested allocation is not available. The list is stored with the dated applications.
Waste	Shall mean wastewater and any and all other waste substances whether liquid, solid, gaseous, or radioactive, associated with human habitation, or of human or animal origin, or from any production, manufacturing or processing operation.
Wastewater	Shall mean the spent water of a community, which may be a combination of the liquid and water-carried wastes from buildings. Groundwater and stormwater entering as infiltration and inflow may also be present.

Wastewater Retaining Tank
Shall mean ·a tank or a chamber for retaining wastewater for a specified period of lime prior to discharge to a wastewater system.

Wastewater System Shall mean the totality of the devices, equipment or works used in recycling, or reclamation of transportation, pumping, storage, treatment, wastewater or in the disposal of the effluent.

Wastewater Treatment Plant
Shall mean an arrangement of devices and structures for treating wastewater, septage and sludge in the Town of Bourne.

Wastewater Treatment Process
Shall mean the physical, chemical, and biological operations and processes, considered individually or in combination, that are applied at a wastewater treatment plant to remove, reduce, or alter the pollutant loading of wastewater.

ATTACHMENTS & FORMS

Bourne Sewer Regulations

ATTACHMENT A

Schedule of Rates. Fees, & Fines

Sewer Rates (FY21- Effective July 1, 2020):

Sewer User Base Fee:

CERTIFICATE OF VOTE

At a meeting of the Bourne Sewer Commissioners of the Town of Bourne, held on July 28, 2020, a quorum being present and voting throughout, upon a motion duly made and seconded, it was

VOTED: Sewer User Fees of $1,051.00 are determined as follows:
Residential and Commercial

Semi-Annual billing from July 1, 2020 – December 31, 2020
$526.00 per unit

Semi-Annual billing from January 1, 2021 – June 30, 2021
$525.00 per unit

Rates effective for the Fiscal Year 2021

BOARD OF SEWER COMMISSIONERS

James L. Potter

Jared P. MacDonald

Judith MacLeod Froman

Peter J. Meier

George G. Slade, Jr.

RECEIVED
2020 AUG 28 AM 10:52
TOWN CLERK BOURNE

Fines:

Bourne Sewer Regulations

ATTACHMENT A

Schedule of Rates, Fees, & Fines

Sewer Rates (FY21- Effective July 1, 2020):

Sewer User Overage Fee:

CERTIFICATE OF VOTE

At a meeting of the Bourne Sewer Commissioners of the Town of Bourne, held on August 25, 2020, a quorum being present and voting throughout, upon a motion duly made and seconded, it was

VOTED: **Water Overage Fees determined as follows:**
Residential and Commercial

A fee of $0.01 per gallon for sewer overages in excess of 45,000 gallons per calendar year

Rates effective for the calendar year 2020

BOARD OF SEWER COMMISSIONERS

James L. Potter

Jared P. MacDonald

Judith MacLeod Froman

Peter J. Meier

George G. Slade, Jr.

RECEIVED
2020 AUG 28 AM 10:52
TOWN CLERK BOURNE

Bourne Sewer Regulations

ATTACHMENT A

Schedule of Rates. Fees, & Fines

CERTIFICATE OF VOTE

At a meeting of the Sewer Commissioners of the Town of Bourne, held on January 17, 2006, a quorum being present and voting throughout, upon a motion duly made and seconded, it was

VOTED: Sewer Use Charges as follows:

RECEIVED
TOWN OF BOURNE
2006 MAR -3 AM 11:35
TOWN CLERK'S OFFICE
BOURNE, MASS.

Design Review and Construction Inspection Fee: $1,500

Commercial Sewer Permit Fee:
$150 plus $.10 per square foot of building floor space

Sewer Connection Fee:
Annual sewer use fee times the number of business units

✓ Residential Sewer Permit Fee:
$100 for residential properties plus $100 for each addition unit

Sewer System Development Charge:
✓ $73.406 per foot of frontage plus $11,539.356 per acre

BOARD OF SEWER COMMISSIONERS

Linda M. Zuern Carol A. Cheli Richard E. LaFarge

Galon "Skip" Barlow W. Thomas Barlow

A True Record

Town Clerk

ATTACHMENT B

General Sewer Service Application Form

To the Town of Bourne, Massachusetts:

The undersigned, being the,_____(*Owner name, Owner's Agent)*

Of the property located at _____
(Number) (Street)

_____ *(Map)* _____ *(Lot)*

Does hereby request a permit to connect to a public sewer main to serve the

Residence *or* ***Commercial Building*** *at said location.*

1. Number of Residential Bedrooms: _____
2. The following indicated fixtures will be connected to the proposed sewer service pipe:

Number	Fixture Type	Number	Fixture Type
_____	Kitchen Sinks	_____	Water Closets
_____	Lavatories	_____	Bath Tubs
_____	Laundry Tubs	_____	Showers
_____	Urinals	_____	Garbage Grinders

Specify other fixtures_____

3. The maximum number of persons who will use the above fixtures is:_____
4. The name and address of person or firm who will perform the proposed work is:

Contact Info: _____

Drainlayer's or Master Plumbing License # _____

Dig Safe # _____ Water District/Dept Connection # _____

5. Plans and specifications for the proposed building sewer, as required, are attached hereto.

Bourne Sewer Regulations

ATTACHMENT B

General Sewer Service Application Form

Page 2 of 2

In consideration of the granting of this permit, the undersigned agrees:

1. To accept and abide by all provisions of the "Sewer Use Regulations" of the Town of Bourne, Massachusetts and of all other pertinent rules and regulations that may be adopted in the future.
2. That no person shall excavate, construct, effect, maintain, modify or use any sewer connection or extension without a currently valid permit from the Town of Bourne. The permit must be "in-hand" before work can commence.
3. To pay all the cost of said particular sewer and its connection with the public sewer in said street, including all labor and materials or any other expense incurred necessary for the proper construction of said particular sewer as determined by the Sewer Commission.
4. To maintain the building sewer at no expense to the Town.
5. For himself, his heirs, devisees and assigns, that the said Department of Public Works shall have access at all reasonable hours, to the said premises, to see that all the laws, rules and regulations relating to the sewer are complied with.
6. To notify the Superintendent when the building sewer is ready for inspection and connection to the public sewer, but before any portion of the work is covered. Notice of two (2) business days shall be provided to the Superintendent.
7. That construction of the sewer connection will be completed within ninety (90) days of issuance of this permit.

Signed: _____

Date: _____

DO NOTE WRITE BELOW THIS LINE – OFFICE USE ONLY

Total FEE PAID: _____

☐ Street Opening Permit ☐ Valid Bond and Insurance

☐ Approved ☐ Not Approved

Permit Number: _____ Expires: _____

Signed: _____ Title _____

Date: _____

Bourne Sewer Regulations

ATTACHMENT C

~~Commercial~~ Wastewater Allocation Form

Page 1 of 2

The Bourne Board of Sewer Commissioners require any property that is either changing business entities in an existing building (even if presently connected to sewer), or connecting to the sewer system for the first time, to fill out this form, to ensure wastewater allocation and connection.

Bourne Sewer Regulations

ATTACHMENT C

~~Commercial~~ Wastewater Allocation Form

Page 2 of 2

Date submitted _____

Applicant name _____

Applicant contact address _____

Applicant e-mail and phone number _____

Is applicant the property owner? Yes ☐ No ☐

If no, who is owner? _____

If no, is applicant: leasing ☐ buying ☐ the property

If buying, attach copy of P&S If leasing, attach copy of lease agreement

Location of proposed project:

Street address _____

Map and parcel number(s) _____

Description of proposed project _____

_____

_____

_____

Financing:

Financing is in place - documentation to that effect is attached ☐ Documentation attached

OR Applicant has letter of intent to finance - copy is attached ☐ Letter of Intent attached

Date of Planning Board preliminary review _____

Allocation requested _____ gallons per day

Basis of request: _____

_____

Any unusual characteristics of projected flow? _____

Requested amount exceeds available allocation Yes ☐ No ☐ If yes, application is wait-listed

Application is Accepted ☐ Rejected ☐ Wait-listed ☐ and dated _____

Application Fee attached: Yes ☐ No ☐

Reviewed for completeness - Signed _____

Date Stamp when determined to be complete

Bourne Sewer Regulations

ATTACHMENT D

Financial Security Provisions for New Pump Stations

Introduction. The Town of Bourne requires prospective permittees of sewer system extensions or connections that include pump station(s) to demonstrate the ability to finance the operation, maintenance and repair of pump station(s) in the event of an emergency and on a long term basis.

The Town of Bourne has enacted these special conditions to provide for and assure compliance with the U.S. Clean Water Act and to specify additional permit requirements that it deems necessary to safeguard the quality of the environment or comply with pertinent provisions of state or federal law. The Town considers these financial security requirements a best management practice.

There are two components to the financial security requirements: 1) A financial security amount to fund the immediate repair of the facility, and 2) a dedicated capital reserve account capable of accumulating sufficient funds to replace the facility within twenty (20) years of initial operation. The immediate repair security amount is necessary to ensure that adequate funds are available to correct unanticipated problems at the facility immediately so that any disruption of the operation of the facility is minimized and no violation of the Clean Water Act is experienced. The capital reserve account will ensure that the facility can continue operation at the end of its useful life and remain in compliance with the Clean Water Act and sewer connection/extension permit at all times.

Except as otherwise provided, all sewer extension and connection permits that include pump station(s) issued by the Town shall contain supplemental conditions requiring the establishment and maintenance of both an immediate repair and/or replacement security amount and capital reserve account as specified below.

Repair. The immediate repair security amount shall be determined in accordance with the following

formula: Estimated construction cost x 0.15 = Security Amount

The estimated construction cost includes the cost of the pump station and all mechanical, electrical, structural, and other equipment associated with the pump station, but does not include land or grounds.

A permittee may satisfy the above financial security condition by means of an escrow account or a letter of credit meeting the Town's requirements. A permittee proposing to satisfy the above financial security condition by means other than an escrow account or a letter of credit must demonstrate to the Town's satisfaction 1) why the use of one of these approved means is not appropriate or necessary, and 2) how the proposed alternative is as effective and protective as an escrow account or letter of credit.

Bourne Sewer Regulations

ATTACHMENT D
Financial Security Provisions for New Pump Stations

Capital Reserve Account. The capital reserve account shall accumulate sufficient capital to replace, as necessary, the pump station (or components thereof) and all other mechanical, electrical, structural, and other equipment components associated with the pump station, but not including land or grounds, within twenty (20) years from the commencement of pump station operation.

The minimum requirements and timing of funding the capital reserve account are as follows. All permittees shall set aside a minimum of 25% of the construction costs (not including lands and grounds) of the pump station. The 25% may be set aside by the permittee in equal portions during the first fifteen (15) years of operation of the pump station.

Example:
Pump station cost = $500,000
$500,000 X 0.25 = $125,000
$125,000/15 = $8,333/year

Accumulated Interest. All accumulated interest must be accrued to its respective account. However, if funds are withdrawn from the immediate repair security to perform the necessary work, then the fund only has to be replenished up to the original calculated security amount (not including interest).

Transfer of Ownership. Typically the project developer will establish and make the initial contributions to the financial security of the accounts. If ownership of the pump station is thereafter transferred to the town, a transfer agreement must be executed to provide for the financial security requirements to the satisfaction of the town.

Policy. The following permit conditions and the requirements of this Policy shall apply to all sewer extension/connection permits with pump stations issued by the Town.

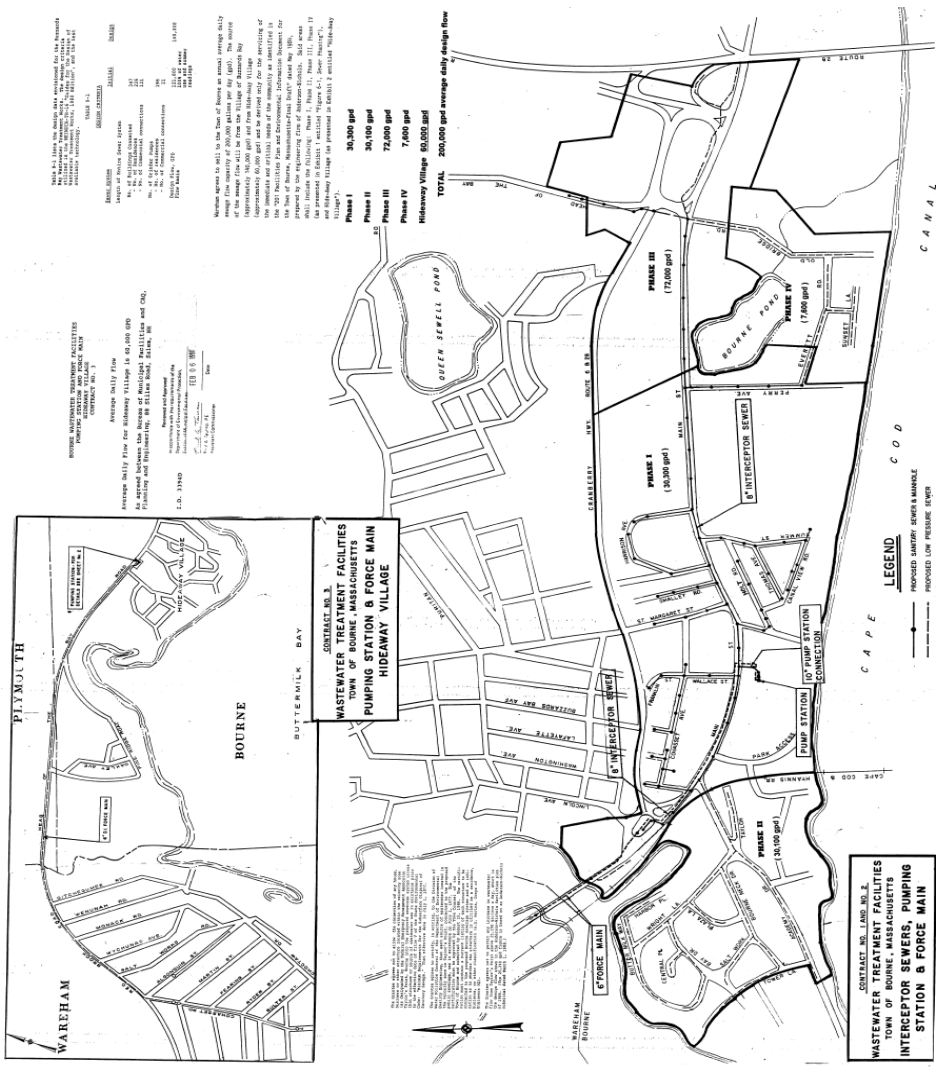
Permit Conditions.

1. The permittee shall maintain a financial security amount in the sum of $_____. This source of funding shall be used by the permittee solely for the immediate repair of any failing pump station(s). Such security shall be provided by means of an interest-bearing escrow account and/or letter of credit from a financial institution having place of business in Massachusetts and be in a form satisfactory to the town. The permittee and its successors shall replenish and maintain the required dollar amount thereof in full within ninety days of any disbursement.
2. The permittee shall establish and maintain a capital reserve account in order to accumulate sufficient capital to make any necessary modifications to the pump stations(s) and other related equipment changes within 20 years from the date of commencement of plant operations. The permittee shall make annual contributions in equal installments of $_____ to accumulate the necessary funds prior to the expiration of the 20-year period. Such funding shall be provided by means of an interest bearing account and/or letter of credit from a financial institution having a place of business in Massachusetts and be in a form satisfactory to the town.
3. Permittees shall submit an annual financial report in accordance with generally accepted accounting principles to the town on January 31 of each year. The report shall, at a minimum, identify the initial and current balances of both the security amount and the capital reserve account and confirm the continuing availability of the funds for the purposes described in the Permit.
4. The permittee shall be required to enter into an annual operation and maintenance service contract for emergency services after the commencement of operation of the pump station.

Bourne Sewer Regulations

ATTACHMENT E

Sewer Area Map



Bourne Sewer Regulations

ATTACHMENT F

Sewer Bill Abatement Form

Application for Abatement

Name of Applicant:_____

Property Location: _____

Mailing Address (if different) :_____

Map:_____ Lot:_____ Total Amount of Sewer Bill: _____

Amount requested to be abated: _____ Account number:_____

Reason for request: _____

_____

_____

Documentation supporting request is attached? Yes _____ No _____
(such as letter from Water Dept. as to when they shut off water/removed meter and/or letter from Board of Health giving a date as to when they deemed the property uninhabitable, when fire/flood or other disaster destroyed property)

Signature of Applicant: _____

Date: _____

Phone Number: _____

Bourne Sewer Regulations

ATTACHMENT F

Sewer Bill Abatement Form

Criteria for Requesting an Abatement/Adjustment

A request for an adjustment must be in writing and must contain sufficient information to determine why the value should be changed. For example, the building housed one type of business two years ago and there is an entirely different type of business in the current year.

Request for abatement due to water being shutoff must meet the following criteria:

1. The water has been shut off by the Water Department/District at the street for at least (12) consecutive months. After the year has passed, if the water is still shutoff, the owner can request abatement and ask that the account be put on hold until the water is turned back on, and it must be verified by an accompanying letter from the Water Department/District. Abatements are not granted when the water is shutoff within a building by an owner.
2. The building/dwelling shall not have been occupied for the same time period.

Owner's request for abatements on buildings that have been rendered un-inhabitable through fire, floor, or hurricane, must also request a letter from the Town's Inspectional Services Department stating the condition of the structure, and this letter shall accompany this information.

All abatement requests and accompanying information must be received by the Bourne Selectmen/Sewer Commissioner Office not later than (30) thirty calendar days after the final due date shown on the sewer bill.

Abatements and adjustment requests are reviewed by the DPW Sewer Division staff who will make recommendations to the Sewer Commissioners for a decision.

It is recommended that the current sewer bill is paid, and then the applicant should wait for the abatement process is pursued through the Board of Sewer Commissioners, because interest and demand fees cannot be abated.

RETAINED EARNINGS POLICY FOR THE SOLID WASTE ENTERPRISE FUND

It shall be the policy of the Board of Selectmen to maintain a level of unreserved retained earnings sufficient to address the financing of: working capital; unanticipated and emergency expenditures; revenue shortfalls; depreciation expense; pollution control surcharges; and unanticipated increases in the recycling costs.

Unreserved retained earnings are cumulative surplus funds, as certified by the Massachusetts Department of Revenue. In proposing the annual Solid Waste Disposal/Recycling operating budget, the Board of Selectmen shall recommend to Town Meeting the use of retained earnings that are available for appropriation by Town Meeting to support any capital expense of the enterprise or to reduce user charges, or both, as provided by State Law.

The rationale for, and the calculation of, unreserved retained earnings to be maintained by the Town are described below and are referred to as the "Liquidity Method" and the "Credit Quality Method." Retained earnings targets shall be calculated using both methods, and shall be determined using the method which represents the higher number in any given year. Under the Liquidity Method, the total amount of retained earnings to be maintained shall be equal to 80 percent of the sum of the individual calculations for working capital, unanticipated and emergency expenditures, revenue shortfalls, pollution control surcharges, and, unanticipated increases in the recycling costs and 100 percent of cumulative depreciation expense net any amounts appropriated for equipment replacement. The factor of 80 percent is based on the assumption that the likelihood of all factors occurring in one fiscal year is small; therefore there is no need to maintain one hundred percent of the calculated level of retained earnings. The use of a factor of 100 percent for depreciation expense is based on the assumption that all of these funds will be needed for equipment replacement. Under the Credit Quality Method, the total amount of retained earnings should not be less than fifteen percent of the operating revenue of the most recent audited fiscal year.

Liquidity Method

Working Capital: For those periods where monthly expenses exceed available cash, the RTS enterprise must have access to working capital to finance operations. In the absence of retained earnings, operations may require the use of General Fund cash which would reduce General Fund cash available for investment, and consequently reduce General Fund Revenue. To avoid the use of General Fund cash as working capital for the RTS operation, retained earnings shall be maintained at a level to provide sufficient working capital to finance the operations of this enterprise fund. The amount retained for this purpose shall be equal to the average of the largest cumulative monthly operating deficit of the prior three years.

Further, any general fund support of the RTS enterprise fund shall be made on a 1/12 basis throughout the fiscal year to preclude the RTS fund's use of general fund cash before the need truly exists.

Reserve for Unanticipated and Emergency Expenditures: Retained earnings shall be maintained at a level sufficient to fund

unanticipated or emergency capital or operating expenditures as recommended to the Board of Selectmen annually by the Director of the Department of Public Works and the Director of Finance.

Reserve for Revenue Shortfall: Annual RTS revenue is, in part, a function of the amount of solid waste disposed of by Town residents. If, in any year, the amount disposed is less than projected, a revenue shortfall may occur. Retained earning shall be maintained at a level sufficient to offset any loss in revenue due to unanticipated decreases in disposal.

Reserve for Depreciation Expense: Annually, the Director of Finance shall procure from the Director of Public Works, an inventory of all capital equipment used to support the operation of the RTS. This list shall be comprised of those pieces of equipment that cost $50,000 or less and will include the purchase price and estimated useful life of each piece. Based on this information, the annual depreciation expense for each piece shall be calculated and revenues shall be raised to finance this expense. At the end of each fiscal year, the amount of revenue raised to offset depreciation expense shall constitute a reservation of retained earnings for the future replacement of capital equipment and shall be added to existing reservations attributable to prior years' depreciation. The purpose of this policy is to limit annual increases or decreases in RTS fees to fund small capital replacement.

Reserve for Pollution Control Surcharge - The Town's contract with Wheelabrator/Millbury for the tipping of solid waste contains a provision that allows Wheelabrator/Millbury to impose a pollution control surcharge on the Town to recoup the costs of installing pollution control equipment required by state and federal regulatory agencies. Retained earnings shall be maintained at a level needed to finance one year of pollution control surcharges imposed on the Town. Based on a surcharge imposed in FY92, that level shall be calculated annually at an amount equal to 3% of the current tipping fee multiplied by the tonnage tipped at the Wheelabrator Facility in the prior fiscal year.

Reserve for Unanticipated Increases in the Recycling Market - Notwithstanding any contract the Town may have for the collection and disposal of recyclable material collected at the RTS, the volatile nature of the recycling market poses the possibility that any contractor with whom the Town has an agreement could go out of business on short notice, leaving no alternative but to pay current market prices for disposal of recyclables. This exposure shall be calculated annually by the Directors of Public Works and Finance and shall be based on a comparison of costs reflected in any of the Town's active recycling contracts and the spot market for tipping and hauling at the time of this annual assessment. The amount of the exposure shall be recommended to the Board of Selectmen as a reservation of retained earnings.

Restoration of depleted Retained Earnings: If, in any year, retained earnings fall below the targets established by this policy, it shall be the policy of the Board of Selectmen to set future rates to restore retained earnings to the target level over the following three year period.

Approved by the Needham Board of Selectmen November, 1999; revised January 12, 2010

Town of Weston
Board of Selectmen
Policy No. 2009.002

Retained Earnings Policy for Water Enterprise Fund

Date Approved/Revised: January 28, 2009

Chairman, Board of Selectmen

It shall be the policy of the Board of Selectmen to maintain a level of unreserved retained earnings in the Water Enterprise Fund that is sufficient to address the financing of: working capital, revenue shortfalls, and unanticipated and emergency expenditures.

Unreserved retained earnings are cumulative surplus funds, as certified by the Massachusetts Department of Revenue, that are available for appropriation by Town Meeting to support any capital expense of the enterprise or to reduce user charges.

The rationale for, and the calculation of, unreserved retained earnings to be maintained by the Town are described below. **The total amount of retained earnings is to be maintained at 12.5 percent of the total water enterprise operating budget. This general calculation is based on 50 percent of the sum of the following individual calculations:** [*The factor of 50 percent is based on the assumption that the likelihood of all factors occurring in one fiscal year is small; therefore, there is no need to maintain one hundred percent of the calculated level of retained earnings.*]

1. Working Capital: For those periods when monthly expenses exceed available cash, the water enterprise must have access to sufficient working capital so that General Fund cash is not used as working capital for water operations. **The amount retained for this purpose shall be equal to the average of the largest single month operating deficit (revenue minus expense) occurring in each of the prior three years.** [*In the absence of retained earnings, operations would require the use of General Fund cash, which would reduce General Fund cash available for investment, and consequently reduce General Fund revenue.*]

2. Revenue Shortfall: Annual water revenue is a function of the amount of water purchased by customers, which is referred to as 'consumption.' If, in any year, actual consumption is less than projected, a revenue shortfall will occur. Retained earnings shall be maintained at a level sufficient to offset any loss in revenue due to unanticipated decreases in consumption. **That level shall be equal to the difference of the average 6 year consumption versus the lowest level of consumption for that time period, multiplied by the current water rates shown as block 2 of the Town's rate structure.** [*Block 2 is selected as it generally represents the point at which discretionary purchases of water begin. The scenario*

envisioned is a wet year in which customers will not need to make discretionary purchases of water.]

3. Reserve for Unanticipated and Emergency Expenditures: Retained earnings shall be maintained at a level sufficient to fund unanticipated or emergency capital and operating expenditures. **It shall be a goal to maintain an amount equal to 2.5% of the annual water operating budget for this purpose**.

Restoration of depleted Retained Earnings: If, in any year, retained earnings fall below the targets established by this policy, it shall be the policy of the Board of Selectmen to set future rates to restore retained earnings to the target level over the following three year period.