WINNIPESAUKEE RIVER BASIN PROGRAM

ADVISORY BOARD MEETING AGENDA

May 20, 2021
10:00 am

Due to the COVID-19 crisis and in accordance with Governor Sununu's Emergency Order #12 and Executive Order 2020-04 this meeting is to be conducted electronically.
The public has access to listen to and participate in this meeting by using the following link:

https://us02web.zoom.us/j/84383653047?pwd=TC9pdjJtZUVSa3FMc0NEU1QxUVI3Zz09

Meeting and entering the password: 139933
Listen only: Call 1-646-558-8656 and enter Webinar ID: 843 8365 3047
For problems, please call 603-528-6379

1. April 15, 2021 Meeting Minutes for review and approval
2. WRBP Monthly Summary Report – April 2021
3. Citizen Comments for items on the agenda
4. Timeline for the CIP update

   Solids handling project
5. Governance Guidelines, MOA and possible By-Laws
6. Rate Assessment Update:

   Discussion on plan developed after meeting with 4 southern communities on March 4, 2021.

   Expect an updated model on the Underwood's proposed changes to the WRBP model on May 18, 2021.
7. Review of the escrow account
8. Replacement Fund
9. Other Business:
   a. Next Advisory Board Meeting Thursday, June 17, 2021
   b. Decision on method to meet.

Item #1

WINNIPESAUKEE RIVER BASIN PROGRAM

ADVISORY BOARD MEETING MINUTES

April 15, 2021 – Conducted Electronically

Members Present: The meeting was called to order by Wes Anderson (Laconia), chair, at 10:01 am. Sharon McMillin (DES), Rene Pelletier (DES), Ron White (DAS), Johanna Ames (Tilton), Jeanne Beaudin (Belmont), Glen Brown (Northfield), Justin Hanscom (Franklin), Ray Korber (Bay District), Brian Sullivan (Franklin), and Meghan Theriault (Gilford) were present at that time.

Guests: Cole Melendy and Thaddeus Webb from Underwood Engineering (UE).

Wes announced that due to the ongoing COVID-19 crisis and in accordance with Governor Sununu's Emergency Order No. 12 and Executive Order 2020-04, that the meeting would be conducted electronically and was being hosted via Laconia's Zoom Video Communications account.

Minutes: Brian moved, seconded by Jeanne, to approve the March 18, 2021 meeting minutes as written. A roll call vote was taken and the motion carried.

Citizens Comments for Agenda Items: Wes asked if there were any guests from the member communities participating on the call and if they had any questions, comments, or concerns regarding the agenda items. As there were no guests participating, he moved on to the next agenda item.

Monthly Summary Report: Sharon distributed the *Monthly Summary Report* for March 2021 by email prior to the meeting.

- Energy Efficiency Upgrades – Delivery of the custom pumps has been delayed until June due to scheduling at the foundry. Installation work by WRBP staff and contractors is ongoing.
- Solids Handling Process Upgrades – No updates at this time.
- Asset Management (AM)/Collection System Evaluations Incentive – No updates at this time.
- WRBP Infrastructure O&M Responsibilities – No updates at this time.
- Replacement Fund – No updates at this time.
- Governance Work Plan – No updates at this time.
- Rate Assessment Formula – See discussion below.

Sharon announced that Mark Corliss was recently promoted to Chief Operator. He has been at the WRBP for over 30 years. During this time, he has progressively advanced to be well-qualified for the Chief Operator position. She wished to recognize his achievement and encouraged members to congratulate him on the promotion.

Rate Assessment Formula Update: Wes asked everyone to refer to a PDF entitled *Talking Points – WRBP Rate Assessment Formula Engineering Technical Assistance WRBP Advisory Board Meeting 4/15/2021* that had been distributed by email prior to the meeting. Cole explained that UE has been assisting Belmont and Franklin with I/I studies and was asked by them to assist with recommendations from those studies for the new rate assessment formula.

The cover sheet contained talking points. The second page contained the draft hybrid flow model that the WRBP presented last summer; which has been serving as the basis for further discussions. UE focused on

the downstream members because of their work with Belmont and Franklin; both located in the southern area. The third and fourth pages contained UE's suggested modifications to the hybrid flow model; provided in red text.

The green column contains data for areas with sewer flow metering that was determined to be accurate enough for billing purposes; representing the six upstream member communities or approximately 90 percent of the total sewer system flow. UE's study focused on the 10 percent that lacked reliable sewer flow metering including all or portions of Northfield, Tilton, Franklin and Belmont. The 10 percent include areas where additional metering was not deemed practical or financially feasible. This remaining 10 percent includes estimated sanitary sewer flows based on metered water consumption or property records; plus, I/I from the local collectors and from the shared WRBP main interceptor south of the Belmont Beach flow meter location.

The blue column contains data where water meter records were provided from the members. The working theory is that water meter records could be used as the next step to estimate sewer contributions based on each property's water use. These properties are not in the areas already captured by the installed sewer meters. The four member communities provided their water meter records for areas outside of the sewer metered areas shown in the green column. Metered water use was considered a reliable metric to use over time to accommodate for changes in population and infrastructure use. Northfield had information on all properties on water meters so this metric is used to estimate their sanitary sewer contributions. Franklin had water meter data for 100% of the area not already sewer metered through the WRBP River Street Pump Station; so, this metric is used to estimate their remaining sanitary sewer contributions.

The peach column represents areas not included in either the sewer metered or water metered columns; so, a different estimate of sewer flows is needed. Both the blue and peach columns represent the estimated sanitary sewer component only; not I/I in the sewer system.

Only Belmont and Tilton needed data in the peach column for non-sewer metered and non-water metered areas and, for that reason, estimates were made in the model for both member communities using property data they provided. In the case of Belmont, a metric called EDU (i.e. Equivalent-Dwelling Unit) is used for community billing purposes. The estimation average flow for each EDU is 125 gallons per day (gpd) based upon the downtown (village) area of Belmont where there are water meter records. UE indicated that either 100% of the 125 gpd water use/EDU could be used to estimate sanitary sewer flows as in the WRBP model or 80% of the EDU water flow (125 * 80% = 100 gpd/EDU) could be used as recommended in the most recent UE model. The range of 110-130 gpd/EDU water use is consistent with evaluations that UE has done throughout the state. The goal is to decide on a metric using water metered data or estimated water consumption per property (EDU) that would then be consistently applied across all communities to complete the information in the peach column.

The other issue is that I/I contributions need to be determined for the non-sewer metered areas (blue and peach columns) in the communities and the main WRBP interceptor between Belmont Beach flow meter and the WWTP. It is possible to estimate the remaining, combined I/I flow by subtracting out all the sanitary sewer flows (green, blue and peach columns) from the WWTP influent flow. Although the final values in the blue and peach columns need to be verified and the water use to sewer contribution metric agreed-upon as either 100% or 80%, the current UE model shows about 2-3% of the total sewer flows are attributable to I/I. UE's I/I preliminary method used to divide up this remaining I/I uses inch-diameter per

mile (idm) of pipelines weighted by a condition factor (age and type of pipe) is provided on page 4. The diameter and length of pipeline needs to be confirmed; but the draft provides a starting point for discussion on a possible method to divide up the remaining I/I among members. The suggested concept is that I/I for local sewers would be attributed to the four southern communities and I/I from the main WRBP interceptor between Belmont Beach and the WWTP would be shared by all 10 members.

UU analyzed preliminary data for the local sewers and the main trunk lines and assigned condition factors for each pipe so that they would have a weighted properly. For example, Franklin had a lot of older, clay pipes (considered leaky) and had a higher factor of 7 because they potentially contribute more I&I than other (newer) materials. The main WRBP interceptor has a large idm so, based on just the idm calculations, it could have a high I/I potential. It was assigned a condition factor of 1.

This is an evolving model and could be changed now or over time. UE hopes that it will provide a starting point for discussions. UE realized that no one had a chance to review the handout in depth before the meeting because it was issued within the past 24 hours. Brian thanked UE and Belmont for helping to move the model forward. He also thanked Wes for all of the organizing that he has been doing.

Wes asked if Ray has had a chance to look into strength, since Bay District had expressed an interest in revisiting that parameter at last month's meeting. Ray noted that Sharon has been sharing information with him and that he planned to put a proposal together before the next meeting. Wes noted that strength had not been considered in the current model.

Wes noted that, with regard to potential I/I contributions, most of Tilton's unmetered areas contained PVC pipelines. For the most recent model, Tilton's collection system piping is considered similar to Belmont's. This is a change from Tilton's system being considered similar to Franklin's collection system. Wes asked if Northfield and Tilton are comfortable with the I/I revisions that were just presented. Johanna said that Tilton is comfortable with the logic. Glen said that he relied on the other members and their experts but Northfield trusted their logic.

Ray asked UE how the currently estimated 132.18 (4-year MG total sewer flow assigned as shared I/I) would be divided up among the 10 member communities. UE indicated that they had not proposed a final method to allocate this shared I/I so it would need to be addressed. Sharon asked if UE planned on providing recommendations. Wes noted that UE is working for Belmont and Franklin and that they would have to give UE permission to provide these types of recommendations. Brian and Jeanne affirmed that Belmont and Franklin were in favor of having UE continue to be involved in the process. Wes suggested that the four southernmost member communities meet with him and UE prior to May's meeting in order to determine options to divide up the shared I/I flow and update and verify the data used in the most recent model. Wes asked members for suggestions on how to divide the remaining I/I among all 10 members. He confirmed it would not be just divided evenly by 10 since that disadvantaged the lower flow communities. Ray suggested the number of rate payers (population served) by each member, Gilford suggested flows from each member. Sharon suggested number of direct connections into this main trunk line should also be considered. Sharon agreed to provide the information previously provided by members regarding sewer users per member community to UE and Wes.

Timeline for the CIP Update: Sharon plans to have the draft overview table prepared by the end of June for the CIP Subcommittee to review.

Governance Guidelines, MOA, and By-Laws Update: Wes announced that there were no updates.

Review of the Escrow Account: Wes announced that there have been no new expenditures and the account would remain available for group use during future studies. He asked if there were any questions. As there were none, he moved on to the next agenda item.

1. **Replacement Fund:** As a reminder, Wes announced that per the decision at last month's Advisory Board meeting, the proposed legislation documents would need to be reviewed and prepared for the upcoming legislative session and sponsors would be needed.

Other Business: The meeting adjourned at 10:50 am. The next meeting will be held on Thursday, May 20, 2021 at 10:00 am via Laconia's Zoom Video Communications account. The minutes were prepared by Pro-Temp Staffing.

Item #2

Summary Report to the WRBP Advisory Board
April 2021

Projects	Status & Schedule	Budget	Other info
Energy Efficiency Upgrades at WRBP Facilities	In order to qualify for a CWSRF loan and Eversource incentive requirements, the project is proposed to be substantially complete on or about Dec 31, 2020. A task order for engineering support was executed. The aeration blower and 2 RAS pumps were purchased and plans and specifications for WRBP installation have been approved. Blower delivered late December; custom pumps delivery delayed until June. Installation work by WRBP staff and contractor(s) is on-going.	The estimated project budget is $400K with 50% principal forgiveness from the CWSRF and a $100K Eversource incentive making the overall budget $100K and a <1-year simple payback based on estimated electricity savings.	This equipment upgrade was recommended by the energy audit of all WRBP facilities completed in early 2020. Project includes a smaller aeration blower, 2 RAS pumps and staff-installed facility lighting. The AB expressed support of the project at their August and Sept meetings.
Solids Handling Process Upgrades	Phased projects included in the Solids Handling Master Plan developed for the Franklin WWTP are being identified for completion of the alternative analyses (10% design) to move forward to a 30% design.	Budgetary costs are still being developed as the project phases are advanced to the 30% design.	The Solids Handling Process Upgrade Project has been forecast in the WRBP CIP since FY18. ***Phase I is expected to include new primary digester mixers, gas management and heating systems, and an activated sludge thickening system.***

Program Initiatives	Status & Schedule	Budget	Other info
WRBP Infrastructure O&M Responsibilities - Memoranda of Agreement	Belmont, Northfield, DAS, Gilford and Tilton Executed MOAs with DES. MOAs for Bay District, Sanbornton, Meredith, Franklin and Laconia were re-sent in February 2020 and are under review by members.	The AG's office developed language for MOAs to clarify the O&M responsibilities of properties, facilities or components that are indeterminate.	Discussion continues with the 5 members.

Program Initiatives	Status & Schedule	Budget	Other info
Replacement Fund	Replacement fund valuation reset to include pipelines pending in FY20. The pipeline lining repair and plant water repair funded from the replacement fund were completed. Legislation will be required to change the current Replacement Fund reimbursement methodology. DES forwarded the AG's opinion on these proposed statutory changes to the Advisory Board chairman on 1/4/2021.	Legislation to modify the Replacement Fund statue was proposed by Gilford at the meeting in July 2020. Discussions continued regarding the current assessment methodology and proposed revisions.	Laconia and Gilford are reimbursing the Replacement Fund for the Pendleton Forcemain repairs. The changes to the replacement fund reimbursement methodology vote that failed on 5/21/2020 was revisited on July 16 to reflect a preference for 50% reimbursement by all members based on the current percent allocation and 50% collected from only those members using the fund for the expenses. ***Legislation to propose this change in the reimbursement formula is expected in the next session in late 2021.***
Governance Work Plan	The work plan to evaluate alternative governance structures for the WRBP was approved at the 10/2/2016 Advisory Board meeting. The legal firm presented their roadmap at the July 2018 meeting; and members approved starting the Phase I efforts. The AG's office documented DES' and DOT's cooperation with the Advisory Board to perform due diligence. DES presented a scope of work for completing some due diligence items on 4/27/2020. DES responded on 6/9/2020 to Laconia's letter dated 5/3/2020. ***The Advisory Board voted to discontinue exploring alternative governance at the 3/18/21 meeting so this item will be removed from future monthly reports.***	DES responded to the Gilford letter requesting clarification regarding ownership transfer of assets on 1/25/2017. Laconia escrow agreement will collect funds for the study with an initial budget of $50K in 2018 and $50K in 2019. Additional escrow funds will be collected for the pending due diligence phase using the same formula. Scope and budget for the due diligence phase was presented at the May 2020 meeting. Members voted not to proceed or expend additional funds until public meetings were held with stakeholders, elected officials, and legislators.	The Governance group engaged legal assistance to evaluate next steps to get to a decision point on governance options. DES' 11/8/18 response to the Phase I Roadmap presentation held at DES on 9/28/18 was discussed at the November 2018 meeting. A draft WRBC District Cooperative Agreement table of contents and draft legislation was discussed at the 9/11/19 meeting. The AG's office provided preliminary observations on 1/15/2020. Three members are not in favor of governance changes, six members have voted in favor of proceeding, DAS has abstained.

Program Initiatives	Status & Schedule	Budget	Other info
Rate Assessment Formula	DES' preliminary analysis of the relative contribution of flow, strength and capacity (shared) costs on 5/5/2016. The Advisory Board resolved to have a draft formula by 1/1/2019; workgroup met on 7/25/18 and 8/16/18. Draft Phase I reports were provided to the workgroup and W-P revised the report based on comments. W-P presented Phase I information at the December 2019 meeting. The 4 southern member communities provided the requested information for the proposed hybrid rate assessment model. On 10/27, Franklin's consultant reviewed their draft efforts with WRBP and Franklin staff. Belmont's I/I report under review and Franklin's pending; with discussion at the March, April ***and May 2021 meetings.***	The full Advisory Board has expressed interest in participating in this discussion with DES regarding a draft rate formula. Updated flow and capacity information prepared by DES was presented to the rate assessment workgroup on 8/16/18. A Flow Metering Rate Allocation study task order was finalized on 1/22/19 for the four southern members where current measured flow data is not accurate enough for billing. DES provided a draft hybrid model in March 2020; that was discussed at the April 2020 meeting. Franklin and Northfield agreed with the model; Tilton was absent and Belmont is reviewing. At the June 2020 meeting, Laconia presented an alternate model for assessing unmetered flows and allocating I/I to all members equally.	DES presented preliminary flow and capacity findings from the 3rd party flow metering evaluations in March 2017and WRBP Franklin WWTP Capacity Status in July 2017. W-P gathered GIS and connection data from the southern 4 communities as part of the study. Members chose not to engage W-P in data collection for the hybrid analyses, but to use WRBP and member resources. At the May 2020 meeting, Belmont did not agree with the data or method used for their assessment or I/I contributions from the 4 southern communities. Additional information from the 4 southern members is being evaluated by the WRBP and DES with the assistance of Franklin's and Belmont's consultant.

Changes from previous report are shown in bold italics.

Dates to Remember:

1. The next Advisory Board meeting will be postponed to **Thursday May 20, 2021** via conference call at 10am; public venue is the City of Laconia DPW office.

Other information:

Thomas O'Donovan, Water Division Director, is retiring at the end of May and leaving NHDES.

Prepared by: _____
Sharon McMillin - DES, WRBP Administrator

Reviewed and in concurrence: _____
Rene Pelletier - DES, Assistant Director, Water Division

Respectfully submitted on: 5/11/2021

Item #6

Topic: Discussion on the draft rate allocation model based on Belmont and Franklin's consultant's comments

Background:

Items that are highlighted are updates to the April 15, 2021 report.

The objective of the March 4, 2021 meeting with the 4 downstream communities was to determine how to reach consensus with the 4 communities on how to handle the "unknown flow" that was identified in the WRBP model and that was assigned to two of the 4 southern communities.

The basic concept was to first identify the possible sources of the unknown flow.

The unknown flow consists of:

- I and I in the WRBP interceptor from the Winnisquam pump station to the last meter before the treatment plant.
- Water consumption from the unmetered areas in the 4 communities
- I & I in the unmetered areas of the four communities.

The 4 communities, for water consumption in the unmetered areas of the communities, are considering using an average consumption factor based on historical water use that Underwood has found in the many rate studies they have performed.

Also they are planning on:

- Applying the I and I planning factors from Belmont's recent study to Northfield as their systems are similar in age and material.
- Applying the I and I planning factors from Belmont's recent study to Tilton as their systems are similar in age and material. An analysis of the sewer pipe materials in the area of Tilton that is not sewer metered has determined that the pipe is PVC. Thus this area of Tilton more closely resembles Belmont, not Franklin.
- The only Member community that provided comments by April 26th was the Bay District. Their position is that the District should receive a credit for the lagoon pretreatment.
- Underwood looked at the three options for distributing flow in the WRBP interceptor among the 10 members. The tree options they looked at were:
  - Population
  - Community flow rate (Underwood recommendation)
  - # direct connections to the interceptor
- Overview of flow
  - Sewer metered flow is 90% of the total flow
  - Calculated sewer flow in the 4 southern communities is 7% of the total flow
  - Unknown flow due to I/I in the unmetered areas of the 4 southern comminutes and I/I in the interceptor is 3% of the total flow.
  -
- Using an updated version of Underwood's suggested modifications to the WRBP model (To be provided on May 18th before the May 20th meeting) to share the unknown I and I from the 4 communities among the 4 communities.

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The current timeline for finalizing the rate allocation formula follows:

March meeting

- Obtain agreement on the sources of the unknown flow
- Obtain agreement on the concept of how to divide the unknown flow among the four communities

April Meeting

- Review the planning factors proposed for I & I flow in Northfield and Tilton
- Review an update to Underwood's suggested changes to the WRBP model that was provided at the Feb 18th meeting
- Discuss the steps and timeline to obtain a decision from the member communities on the proposed changes to the WRBP model.

May Meeting

- Discuss any issues raised by the member community governing bodies. If the governing body of any member community has an issue with the model please provide comments as soon as you have them. Do not wait for this meeting to raise them.
- Obtain concurrence on the WRBP model with proposed changes so that members can take the recommended model back to the communities to obtain a decision their governing bodies by then. (A majority must vote yes to approve the model.)

Bay District has a lagoon that pretreats the sewage from the Bay District. Bay District is considering requesting an adjustment due to the reduction in strength of the Bay District's outflow. Ray Korber is researching history of inflow versus outflow strength to determine if the difference is significant enough to request a reduction. WRBP initial comments on the request follow:

- Initial agreement with Bay District was for continual low flow from the lagoons. Bay District presently sends slugs of sewage depending on capacity at the time.

- The lagoon also sends algae to the plant which causes issues with the plants treatment process.

June Meeting

Vote to approve the WRBP model with proposed changes if all communities have obtained a decision from their governing bodies by then. (A majority must vote yes to approve the model.)

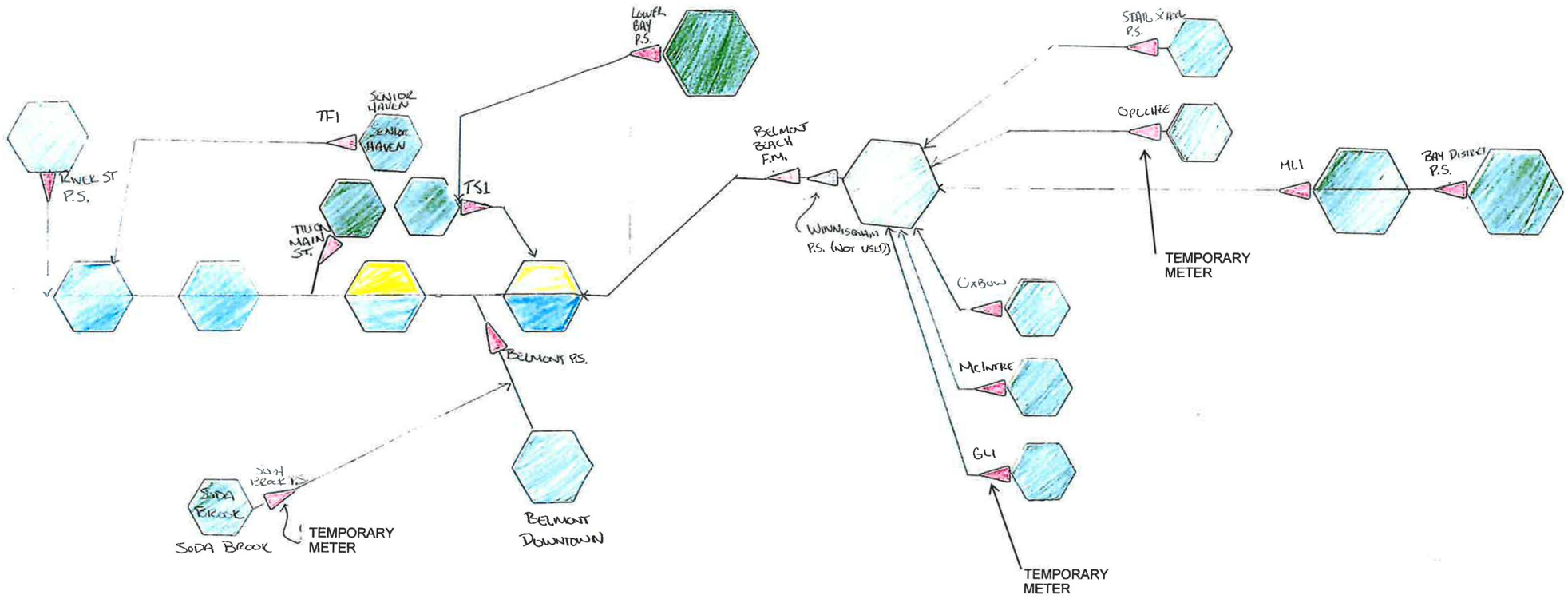
Attachment 1 is a flow diagram of the system.
Attachment 2 is copy of the WRBP 7/7/2020 model.
Attachment 3 is a copy of the Proposed modifications to the WRBP model. (To be provided)

WRBP FLOW SCHEMATIC AND HYBRID FLOW MODEL INFORMATION

UNDERWOOD ENGINEERS

SEPTEMBER 2020

COMMUNITY	FRANKLIN	NORTHFIELD	TILTON	BELMONT	SANBORTON	LACONIA	GILFORD	STATE SCHOOL/ NHDOS	MERRIMACK	BAY DISTRICT
FORMULA FOR FLOW ESTIMATION	RIVER ST P.S. + WATER DATA	WATER DATA (IN AQUADUCT + SODA BROOK)	[TILTON MAIN ST. + TF1 + TS1] + WATER DATA + DEMOGRAPHIC DATA	[BELMONT P.S. - SODA BROOK - EPTAM - QUALITY CONTROL] + WATER DATA + DEMOGRAPHIC DATA	LOWER BAY P.S. + TS1	BELMONT BEACH - OXBOW - ML1	OXBOW + MCINTIRE + GL1	STATE SCHOOL P.S. + OPECHEE	ML1 - BAY DISTRICT P.S.	BAY DISTRICT P.S.



LEGEND

- SEWER BASIN WITH WASTEWATER FLOW DATA
- SEWER BASIN WITH WATER DATA FOR ALL SEWER CONNECTIONS AND NO SEWER DATA
- SEWER BASIN WITH WATER DATA FOR SOME SEWER CONNECTIONS AND NO SEWER DATA
- SEWER FLOW METER LOCATION

RIVER ST. P.S. ULTRASONIC DOPPLER ± 1/4 3%

SODA BROOK AV SENSOR ±15%

TILTON MAIN ST. 6" PARSHALL ± 3%

TF1 60° TRAPEZOIDAL FLUME ±10%

TS1 10% PALMER-BOWLUS FLUME ±6%

BELMONT P.S. MAGMETER ±0.5-5%

LOWER BAY P.S. MAGMETER ±0.5%-3%

BELMONT BEACH NOT EVALUATED IN W.P. FLOW METER ASSESSMENT

WINNISQUAM P.S. MAGMETER (3%-10%)

OXBOW 3-INCH PARSHALL ±8%

MCINTIRE 10" PALMER-BOWLUS ± 5%

GL1 10" AV SENSOR ± 15%

STATE SCHOOL P.S. CALCULATED - WETWELL DRAWDOWN ± 20%

OPECHEE 10" AV SENSOR ±10%

ML1 36" AV SENSOR ± 8%

BAY DISTRICT P.S. MAGMETER ±0.5%/±3%

ATTachment #1

WRBP Version 07/07/2020

Sewer Flow Volumes

Metered + Unmetered Flows in 4 Members	Baseline metered sewer flows (4 yr MG total) includes I/I since sewer metered		Water Use Flow (4 yr MG Total)		Subtotal: metered + water use	Demographic Units (4 yr Totals based on current year)		% of total MG for areas using demographics %	MG of remaining WWTP flows based on demographic %	Total Sewer Flows = Metered + Water Use + Demographic (MG)	Total flow % = metered + unmetered w/o I/I factor	current O&M %	Change w/ DES model
Belmont	Belmont PS - Soda Brook - Eptam - Quality Control	150.51											
			4 yrs water use - Sunlake	8.14									
			4 yrs water use - Cates	7.95									
			4 yrs water use - Westview	5.10									
			4 yrs w/ avg as yr 4 water use - Solar	7.11									
			4 yr water use - Court St.	15.38									
						residential	320.06						
						commercial	44.45						
	Totals:	**150.51**		**43.68**	**194.19**		**364.51**	**87%**	**310.67**	**504.85**	**6.43%**	**3.80%**	**2.63%**
Franklin	River St PS	955.63											
			Water Use 2016-2019 4 yr.	**134.23**									
	Totals:	**955.63**		**134.23**	**1089.86**					**1089.86**	**13.89%**	**15.75%**	**-1.86%**
Northfield			T-N Aqueduct Northfield only Water Use + Soda Brook (4 yrs)	**145.50**	**145.50**					**145.50**	**1.85%**	**2.60%**	**-0.75%**
Tilton	Tilton Main + TF1 + TS1	392.84											
			water use 4 yrs. - Pennichuck	3.07									
			water use Lochmere - flat rate	34.16									
			water use T/N Aqueduct	95.13									
						flat rate	55.20						
	Totals:	**392.84**		**132.36**	**525.20**		**55.20**	**13%**	**47.05**	**572.25**	**7.29%**	**4.25%**	**3.04%**
Other communities													
Bay District	Bay District PS	142.42								142.42	**1.82%**	**1.15%**	**0.67%**
Gilford	Oxbow + McIntire + GL1	1128.82								1128.82	**14.39%**	**0.117**	**2.69%**
Laconia	Belmont Beach - Oxbow - ML1 - GL1 - Opechee	3329.93								3329.93	**42.44%**	**49.87%**	**-7.43%**
Meredith	ML1 - Bay District PS	696.72								696.72	**8.88%**	**9.25%**	**-0.37%**
Sanbornton	Lower Bay PS + TS1	117.93								117.93	**1.50%**	**0.68%**	**0.82%**
NHDAS	State School PS + Opechee	117.45								117.45	**1.50%**	**0.95%**	**0.55%**
												100.00%	
	Totals:	**7032.25**		**455.77**	**7488.02**		**419.71**		**357.71**	**7845.73**	**100.00%**		
	% flows accounted for by these methods:	**89.63%**		**5.81%**	**95.44%**				**4.56%**	**100.00%**			

For water use and demographic flows, could add a factor for I/I based on existing I/I studies or pipe age, size and material using available standard design/construction references (significant additional work for each pipe segment and/or collector sewer shed).

Temporary meters used in analysis include GL1, Opeechee and Soda Brook.

Used 135 gpd per unit per Belmont's request - value used for Tilton and Belmont to be consistent.

Added sewershed to Franklin water meter total.

Corrected entry for Belmont - Solar and Court st. water use.

Wes' version: 135 gpd/connection regardless of # bedrooms or baths or residnetial vs commercial*365d/yr*4 yrs

		gal 4 yrs	MG 4 yrs
uses 135gpd for 1065 connections	from Belmont	209,911,500	209.91
used 135 gpd for 64 connections	from Tilton	12,614,400	12.61
		222,525,900	222.53

	MG 4 yrs
	357.71
	222.53
	135.19

	MG 4 yrs
assumes 300gpd/idm	
Belmont	
Tilton I/I per 2015 CMOM idm - entire town	**39.83**
Northfield	
Franklin - from 4 unmetered areas from I/I stidy	**32.78**

Attachment 2

Proposed Hybrid Model for Determining Flow Contributions from unmetered locations in Belmont, Franklin, Tilton and Northfield

Info used in Model:

Franklin

Water Use data from Franklin DPW
ID all sewer users that DO NOT go through River St. PS - completed 12/17/19
Confirmed all but 1 sewer users are on City water (1 not on water has a sewer flow meter installed)
100% water use = 80% sewer volume/year
I/I distributed purely by IDM

Northfield

Annual Water Use from Tilton-Northfield Aqueduct
100% water use = 80% sewer volume/year
Subtract businesses (currently 2) on Route 140 in Belmont billed by T-N Aqueduct
IDM information provided by WRBP was used to estimate a placeholder I/I flow. Community specific I/I information could be used to refine I/I flow estimates.

Belmont

Water use and/or determine Units from property records for unmetered areas
ID all sewer customers that DO NOT go into Belmont PS (from sewer user list already provided or updated version)
ID what unit entries on this spreadsheet are based on (looks like historic flow based units or similar)
Get water use data for all Belmont sewer customers billed by water companies; 100% water use = 80% sewer volume/year
Property records of non-Belmont PS customers (in lieu of water or sewer flow data)
~~Use property records and TR-16 or M&E 5th ed. Or Env-Wq definitions of units * GPD per unit to determine property unit and then total number of units (Env-Wq 704.03).~~
Town of Belmont water data used to estimate water use to be approximately 125 gpd/connection.
Use property records and unit flows to estimate water use from unmetered areas without water meters at 125 gpd/connection.
Wastewater flows estimated to be 125 gpd *80% = 100 GPD/EDU

Tilton

Water use and/or determine Units from property records for unmetered areas
ID all sewer users that DO NOT go through TS-1 and TF-1 and Tilton Main St. flow meters
W-P determined that these 3 meters are accurate for billing purposes
Get water use data for all Tilton sewer customers billed by T-N Aqueduct & Lochmere; 100% waste use = 80% sewer volume/year
Use property records and unit flows to estimate sanitary wastewater flows from unmetered areas without water meters at 100 gpd/connection.
~~Use property records and TR-16 or M&E 5th ed. Or Env-Wq definitions of units * GPD per unit to determine property unit and then total number of units (Env-Wq 704.03).~~
IDM information provided by WRBP was used to estimate a placeholder I/I flow. Community specific I/I information is needed

~~**Total all units and assign reference guidance GPD flows for these 2 communities without complete water use info**~~
~~Normalize units to account for the % total flows being addressed (% changes with rolling average)~~
~~Assessment % based on metered baseline % + normalized unit % in each community~~

	MG	MGD	%	
WWTP Influent flows (MG)				
(2015-2018)	7845.73	5.37		
sewer metered 4 yr totals	7032.25	4.82	89.63%	**Metered flows include I/I since total flows though each metering location or pump stations was metered over at least 4 years.**
unmetered 4 yr total	813.48	0.56	**10.37%**	**These unmetered flows were evaluated using the methods above.**
			100.00%	

Attachment 2

Item #7

As of Jan 2, 2021

Rath, Young & Pignatelli Road Map Study

Budget Tracking sheets

Funds Available $ 51,900.00

Invoice #	Date of Invoice		Invoice Amount	Funds remaining
Road Map Development				
Invoice # 1	5/22/2018		$ 2,858.00	$ 49,042.00
Invoice # 2	6/20/2018		$ 6,890.18	$ 42,151.82
Invoice #3	6/30//2018		$ 6,958.00	$ 35,193.82
Invoice #4	8/20/2018		$ 2,656.00	$ 32,537.82
Road Map Phase 1				
Carry Over from Previous Phase				$ 32,537.82
Escrow for this phase				$ 65,000.00
Total Available				$ 97,537.82
Invoice #1-1	20-Sep-18	79111	$ 800.00	$ 96,737.82
Invoice# 1-2	18-Oct-18	79407	$ 896.00	$ 95,841.82
Invoice #1-3	15-Feb-19	80548	$ 924.00	$ 94,917.82
Invoice #1-4	15-Mar-19	80800	$ 759.00	$ 94,158.82
Invoice #1-5	6/10/2019	81583	$ 396.00	$ 93,762.82
Invoice #1-6	7/18/2019	82002	$ 330.00	$ 93,432.82
Invoice #1-7	8/15/2019	82241	$ 66.00	$ 93,366.82
Invoice #1-8	9/17/2019	82524	$ 1,584.00	$ 91,782.82
Invoice 1-9	10/28/2019	82912	$ 396.00	$ 91,386.82

Invoice #	Date of Invoice		Invoice Amount	Funds remaining
Invoice 1-10	5/11/2020	84667	$ 1,224.00	$ 90,162.82
Invoice 1-11	6/19/2020	85172	$ 782.00	$ 89,380.82
Invoice 1-12	9/23/2020	85982	$ 2,550.00	$ 86,830.82
Invoice 1-13	10/23/2020	86266	$ 1,394.00	$ 85,436.82
Invoice 1-14	11/13/2020	86449	$ 525.00	$ 84,911.82
Invoice 1-15	12/15/2020	86722	$ 1,480.00	$ 83,431.82