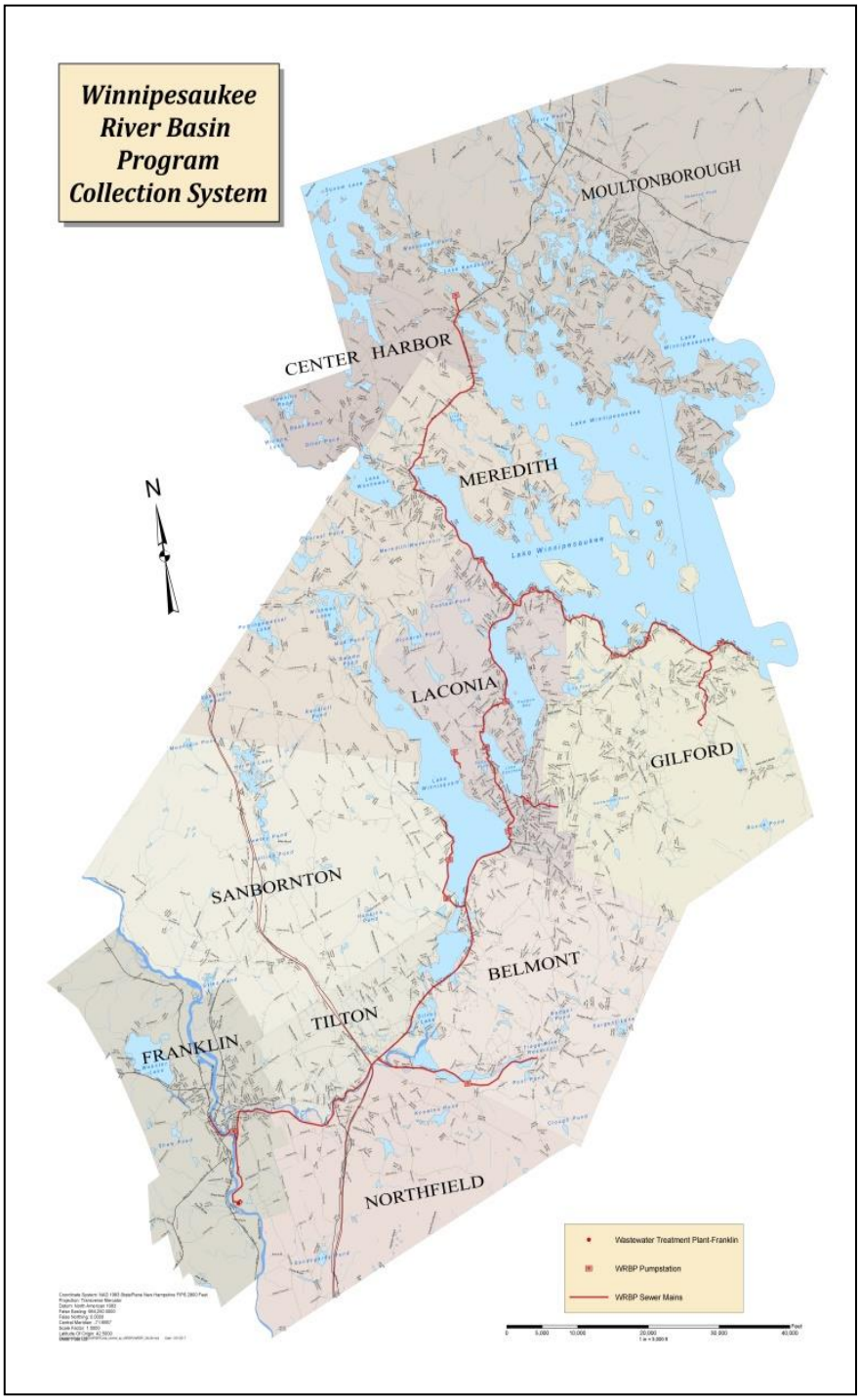
WINNIPESAUKEE RIVER BASIN PROGRAM (WRBP)
CAPITAL IMPROVEMENTS PROGRAM (CIP)
2018 UPDATE



The Winnipesaukee River Basin Program (WRBP) is the state-owned sewer system, established in RSA 485-A:45-54, which serves portions of the New Hampshire Lakes Region member communities of Center Harbor, Moultonborough, Gilford, Meredith, Laconia, Belmont, Sanbornton, Northfield, Tilton, Franklin. The WRBP Advisory Board was established in RSA 485:A-52 for the purposes of reviewing matters of mutual concern to the member communities.

WINNIPESAUKEE RIVER BASIN PROGRAM (WRBP)
CAPITAL IMPROVEMENTS PROGRAM (CIP)

CAPITAL IMPROVEMENTS PLAN
2018 Edition

November 13, 2018

Prepared by the
WRBP Advisory Board
on behalf of the
Member Communities served by the WRBP Wastewater Treatment
and Collection System

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To: Municipal Officials, Winnipesaukee River Basin Program (WRBP) Communities

From: Wesley Anderson, Acting Chairman, WRBP Advisory Board
Director of Public Works, City of Laconia

Re: Capital Improvements Program (CIP) 2018 Edition for the
WRBP Regional Sewage Treatment Plant and Wastewater Collection System

Date: November 13, 2018

The Winnipesaukee River Basin Program (WRBP) Advisory Board (AB) is pleased to provide the 2018 edition of the WRBP Capital Improvements Program (CIP). Attached to this memo is a brief summary including project updates and description of other changes made to the CIP. Please refer to the full CIP document for details.

The Asset Management Program, Phased Collection System Evaluations, and Wastewater and Solids Handling Process Optimization initiatives remain on the CIP. These programmatic priorities will, in part, address some of the MOM Study recommendations and the DES Implementation Plan which was created as a result. On-going wastewater and solids handing process optimization efforts may necessitate operational changes or equipment retrofits. **Two new sub-projects of the wastewater optimization initiative are included in the 2018 CIP. They are expected to incur long term debt if funding is through the State Revolving Fund loan.** This funding methodology provides the WRBP an opportunity to receive partial principal forgiveness thus lowering the Program's cost for the projects and its associated debt.

The objective of the CIP is to produce a comprehensive planning document for the benefit of both the New Hampshire Department of Environmental Services (NHDES) – WRBP Staff (that operate the treatment plant and collection system) and the individual member communities.

The plan ensures compliance with all Federal and State water quality requirements while maintaining equitable sewer rates in each of the communities. The CIP document is reviewed and updated annually by the CIP Subcommittee and the WRBP Staff. This 2018 edition updates the original CIP document prepared for the WRBP in 2012.

The AB is very grateful for the commitment of time and for the expertise of individual members of the CIP Subcommittee and WRBP staff in preparing this document for the benefit of all the WRBP member communities.

Encl.

2018 CIP Summary Update:

Projects Added/Deleted/Deferred

1. Two new projects were added to the 10-year CIP as sub-projects of the WWTP Process Optimization effort: Aeration Blower and Aeration system automated valves. See below for a brief description or the CIP worksheets for more details of these two proposed projects.
2. All other projects in the CIP were modified as necessary and re-prioritized in order to accomplish the proposed work under realistic timeframes (see the complete CIP document for details).

CIP Project Updates (in order of appearance on the 10-year CIP Summary)

1. The **Asset Management Program** initiative is not a capital project, but included in the CIP since it will augment the CIP in future years by assessing the condition, criticality, and the replacement or rehabilitation costs of the WRBP infrastructure. The task order with Wright-Pierce provided initial support for this initiative and assistance with software and hardware selection and will continue through program implementation, including transition from the exiting, obsolete MP2 work order system. The Wright-Pierce task order assistance is forecast to be completed in FY19. Software and vendor support was purchased in FY18 for $105K. The software vendor will provide support for the initial development and implementation effort that is expected to take 8-12 months in FY18 and FY19. The CWSRF loan program is expected to provide up to $90K in principal forgiveness when three specific milestones are reached during the Asset Management Program implementation. This loan will not incur any long term debt and the $90K is deducted from the estimated project costs in FY19.
2. R**eplacement Emergency Back-up Generator at Franklin WWTP** is forecast for FY19 at an estimated $190K including a new, self-contained diesel generator with integral fuel tank, concrete pad, and interconnection by WRBP staff to the recently upgraded switchgear. An SRF loan application was submitted and $9,500 is available in principal forgiveness if loan funding is used. The switchgear replacement project completed in FY16 included installation of the conduits and handhole necessary to facilitate the new generator's installation; reducing the overall cost of this project. The existing turbine generators' combined control system has obsolete components that cannot be repaired and so would need to be replaced with a new, custom control system upon its failure. The two turbine generators installed on the second floor of the main building as original equipment at the WWTP over 39 years ago can be replaced with a single, right-sized diesel generator located outside building and above the 100-year flood plain. Estimates to replace just the control system approach the cost of a new diesel generator and would not address the age or increasingly difficult sourcing of parts or lack of qualified technicians available to troubleshoot and repair the turbine generators.
3. **Solids Handling Alternatives Analyses** includes the entire solids handling process instead of identifying discrete components throughout the WWTP. This initiative is part of the Implementation Plan and Schedule to be conducted by WRBP staff using as-needed engineering services contracts and NHDES Wastewater Engineering assistance starting in FY19. A comprehensive scope for the master planning effort has been developed with a budget of $74K.
4. **Wastewater Process Optimization** remains on the CIP. In 2015-2016, an analysis by WRBP and DES Wastewater Engineer staff was conducted to help identify root causes and potential solutions for sporadic septicity and toxicity experienced at the WWTP. One alternative sub-project that is still under consideration is aeration tank diffuser modifications. Data analysis is on-going following the installation of additional sensors in the aeration tanks in FY17-18. SRF loan applications were submitted in FY19 for both a new, smaller aeration blower and automated valves in the aeration system. An estimated $216,850 in principal forgiveness is available for these two sub-projects given the completion of the planned, prerequisite energy audit in early 2019. After deducting the principal forgiveness, these two projects are estimated to cost $520K, including contingency. A 10% reduction in electricity ($26K/year) is estimated to further offset project costs. Estimates for implementing these upgrades are included in the CIP for FY20-21 as an alternatives analysis and retrofit. No final decision has been made to proceed with modifications to the aeration diffusers, which would be considered in

conjunction with the other proposed retrofits, or to pursue other alternatives.

5. A multi-year, phased approach to the future **River Street WWTP Access Roadway Phased Rehabilitation** is forecast in the 10-year CIP with potential chip sealing, repaving and drainage rehabilitation and restoration efforts every three years starting in FY19. Alternatives may include addressing deteriorates areas using shim and overlay, removal of cobbles, reclamation, and addressing any future drainage issues as they arise. In this case, the placeholder amount was raised to $150K in recognition that significant work on different sections of the roadway may be required and this amount reflects a more realistic forecast of probable costs. Previous work includes crack sealing of River Street Access Road completed in FY13 for $26,250 in order to help prevent further deterioration and the repair and resurfacing of two deteriorated areas performed in FY16 for $16,953.50. In FY17, over-hanging trees were removed that were causing excessive ice build-up and increasing the degradation of the roadway in that area. Additional tree removal along the roadway under a similar logging contract was completed at no cost in FY18. Roadwork on three segments totally approximately 2,566 linear feet was bid and awarded not to exceed $110,128K with a completion before June 30, 2019.

6. **Maintenance of Process Tanks** is part of scheduled O&M at the Franklin WWTP but, at the request of the members, will continue to be forecast in the 10-year CIP. Process tank maintenance schedule and frequency was modified to incorporate recommendations from the MOM Study and WRBP staff and will continue to be evaluated based on inspections of the tanks and related appurtenances.

7. The **Phased Collection System Evaluations** are occurring using a multi-year, phased approach. The WRBP has inspected approximately 2/3 of WRBP manholes and other structures; such as siphons which are inspected and cleaned twice a year. Several segments of WRBP gravity sewer lines (approximately 15% of the total gravity sewer system) have been CCTVed by contractors as part of walking rail-trail installations local to the WRBP infrastructure in Belmont, Laconia, and Northfield. Some force mains have also been CCTVed concurrent with other infrastructure repair work. The Asset Management Program implementation is capturing asset condition and criticality for all assets and collection system inspections of subsurface infrastructure will identify other areas to be prioritized for further evaluations or possible corrective measures either by WRBP staff or contractors. To date, inspections have not shown any areas needing capital project repairs or further evaluations. The $50K placeholder amount is used in the CIP until such time as a more comprehensive scope and budget are developed for any identified capital project needs.

8. **Pump Stations PLC and Telemetry - Alternative Analysis and Retrofits** is forecast for FY20. Existing PLCs installed during the SCADA implementation in 2000 in the 14 WRBP pump stations are nearing the end of their useful life and will not be supported by the manufacturer or software vendors. Updating all the pump station PLCs needs to occur at the same time and concurrently with radio telemetry interface updates and other software programs communicating and controlling the stations. Engineering support will be necessary to determine the most appropriate PLCs, software, communications protocols, and sequencing of retrofits to maintain complaint operations. Current estimates range from $15-$16K per pump station to replace the PLCs with radio telemetry upgrades that would be necessary at the same time. $60K is included for engineering evaluations, design, and construction oversight. The estimated amount of $284K total is used in the CIP until such time as a more comprehensive scope and budget are developed.

9. The **Winnisquam Pump Station Emergency Power Alternative Analysis** is forecast for FY21. The $50K placeholder amount is used in the CIP until such time as a more comprehensive scope and budget are developed. This pump station will be included in the energy audit to be performed in early 2019.

10. The **Winnisquam Pump Station Compound Rehabilitation** remains forecast for FY21. The $50K placeholder amount is used in the CIP until such time as a more comprehensive scope and budget are developed.

<u>Other 10-year CIP Planning Document Changes (changes in funding source, etc.)</u>

1. No other changes.

EXECUTIVE SUMMARY – CAPITAL IMPROVEMENTS PROGRAM - 2018 EDITION

Winnipesaukee River Basin Program Wastewater Collection and Treatment System

The Winnipesaukee River Basin Program (WRBP) is a regional wastewater system serving portions of the New Hampshire Lakes Region communities of Center Harbor, Moultonborough, Gilford, Meredith, Laconia, Belmont, Sanbornton, Northfield, Tilton, and Franklin, as well as the state-owned Lakes Region Facility. Wastewater is collected in the respective communities and discharged to the regional wastewater treatment facility located in Franklin, New Hampshire. The respective communities, sewer commissions, private or public entities own, operate and maintain their own wastewater assets (pump stations, force mains, gravity sewers). The wastewater treatment facility, interceptors and related pumping facilities are owned by the State of New Hampshire through the New Hampshire Department of Environmental Services (NHDES) and are operated and maintained by NHDES' WRBP staff. As per federal statute, the regional system must operate in a manner that meets all requirements as specified under the facility's National Pollutant Discharge Elimination System (NDPES) Permit. All member communities, except Sanbornton, are listed under the NDPES Permit as co-permittees.

The WRBP was established under the provisions of RSA 149-G (now RSA 485-A:45-54) adopted through the special legislative session of 1972. RSA 485-A:45-54 established governance for the WRBP. Key elements of the legislation include:

- Member communities are represented by an Advisory Board. The Advisory Board meets at least quarterly with NHDES' WRBP staff to discuss operations, administration and capital expenditures and to conduct other business as required to manage, maintain and operate the regional system.
- Member communities pay all the expenses of operating, maintaining, and upgrading the WRBP infrastructure; there is no state general funding for the WRBP. Costs are allocated between members based upon their proportional share of WRBP facilities as per the legislation.

WRBP Capital Improvements Program

The purpose of the WRBP Capital Improvements Program (CIP) is to clearly articulate the state-owned wastewater treatment facility and collection system infrastructure repair, replacement and rehabilitation needs, ascertain current costs, and project future capital costs. The goals of the CIP are to:

- Meet regulatory requirements as specified in the National Pollutant Discharge Elimination System (NPDES) Permit.
- Protect the health and safety of WRBP staff and the general public.
- Protect the environment and provide sewerage services commensurate with the needs of WRBP members.
- Maintain assets at a level adequate to protect the WRBP's capital investment, maintain the desired level service, provide cost-effective operation and ensure permit compliance.
- Prioritize those projects with the highest potential for reducing operation and maintenance costs, for improving the operational efficiency and effectiveness of facilities and operations staff, for obtaining the greatest long-term return on investment, and for achieving the lowest life cycle cost.
- Project total project costs (engineering, construction, legal, administration, etc.) and cumulative annual costs for the 10-year planning period so that member communities can better assess potential sewer rate impacts.
- Seek outside (state/federal) funding that could be available to offset capital expenditures by the WRBP communities.
- Educate community officials, ratepayers and the community at large on each project contained in the CIP. Clearly articulate not only what must be done, but why.
- Provide a consistent and objective mechanism so that clear determinations can be made on the importance of one project relative to another to ensure that the most important projects get completed.

- Provide a vehicle, endorsed by the member communities, for gaining consensus from ratepayers on how best to meet the needs of the regional system.

The WRBP Capital Improvements Program (CIP) is developed through the Advisory Board in collaboration with NHDES' WRBP staff. Key elements of the CIP process include:

- Establishment of the CIP Subcommittee. The Subcommittee is tasked with evaluating the details of proposed capital improvements and making recommendations to the larger Advisory Board for their review and concurrence, prior to their making recommendations to the member communities. The Subcommittee is comprised of 3-5 members of the Advisory Board and the WRBP Administrator and Superintendent.
- Development of a decision matrix, prioritization criteria and planning tools to assist in project ranking.
- Development of procedures and documents to effectively communicate with the Advisory Board, member communities' governing officials, and the public.

Use of this CIP Document

This CIP Document includes a compilation of discussions, analysis and evaluations by the Subcommittee and Advisory Board and is presented as the Advisory Board's recommendations for prioritization and proposed scheduling over the 10 year planning period for identified capital improvements exceeding a threshold dollar amount of $50,000 for the wastewater treatment facility and collection system owned and operated by the NHDES WRBP. It does not include an assessment of capital needs for infrastructure owned and operated by WRBP member communities or other entities. It is the responsibility of the communities and these other entities to develop capital improvements programs for their own assets. This CIP document includes the following key elements:

- <u>WRBP Capital Improvements Program Summary:</u> This is a summary of anticipated capital improvement projects forecast on an annual basis over the 10 year planning period for projects in excess of $50K. The Summary differentiates between projects proposed for the wastewater treatment facility located in Franklin and those proposed for the collection system. Costs are estimated total project costs (construction, engineering, etc.) at present worth. Cost estimates do not include costs associated with debt retirement or inflation. Cost estimates are preliminary and are intended for planning purposes only. Costs are entered for the State fiscal year in which a funding commitment is anticipated and does not necessarily reflect when actual costs will impact rate payers, as this is determined by funding mechanism or completion date of the project. The construction costs are based on capital costs which include all major items of construction and a 10% construction contingency. Refer to the notes in the Summary for additional information.
- <u>WRBP Capital Improvements Worksheet:</u> This is a detailed analysis of each CIP project. The Worksheet includes: project identification; project description and justification; project scoring; and project cost breakdown and potential funding sources.
- <u>WRBP Criteria Prioritization:</u> This document defines the criteria used to score each project on the WRBP Capital Improvements Worksheet. The project score is determined from criteria that are consistent with the goals established for the CIP, the relative weighting of importance of the criteria, and the project's priority within the context of each criterion. The project score is the sum total of the multiple of the weighting and priority for each criterion. The project score is measured against the scores of other projects to establish the prioritization ranking of all projects in the CIP. Projects are listed in order of priority in the Summary for the wastewater treatment facility and collection system, respectively. Those projects identified as the most immediate priority are in bold.

The proposed project implementation schedule included in the Summary and Worksheet uses the prioritization and ranking of each project, together with a need to phase in projected costs over the planning and implementation period, with the goal of forecasting and maintaining sustainable sewer rates. Note that the project prioritization, schedule, and selection of projects to be implemented are subject to change and may need to be revised to address unforeseen circumstances. **The CIP will be revisited each year by the Subcommittee and an updated CIP Document submitted to the Advisory Board to be reviewed and approved by October of each year.**

WRBP CAPITAL IMPROVEMENTS PROGRAM 10-YEAR SUMMARY PER STATE FISCAL YEAR [1]

PROJECT	FUNDING	TOTAL 10-YEAR COST	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28	PROJECT DESCRIPTION
Programmatic													
Asset Management Program	**O&M/CWSRF**	**$33,000**											Development and implementation of an asset management program per the DES Implementation Plan and Schedule. Includes condition and criticality assessments of the WWTP, shop, and pump stations, replacement of existing MP2 work order and maintenance archive system with information from the collection system evaluations and GIS mapping incorporated as it becomes available. $90K in CWSRF principal forgiveness, license renewal and support, plus completion of consulting assistance in FY19.
	O&M	$ 123,000	**$ 123,000.00**										
	CWSRF	$ (90,000)	**$ (90,000.00)**										
Wastewater Treatment Facility													
Replacement Emergency Back-up Generator at Franklin WWTP	**CWSRF**	**$180,500**											New diesel generator to replace the 30+ year old turbine generators that provides emergency back-up power to the WWTP. SRF principal forgiveness is available.
		$ 190,000	$ 190,000										
		$ (9,500)	$ (9,500)										
Solids Handling Alternatives Analyses		**$74,000**											$74K task order scope and budget for solids handling master plan.
Digesters, sludge thickening, mixing, dewatering, septage receiving, heat exchangers, gas piping, handling & utilization, sludge/biosolids disposal, etc.	O&M	$ 74,000	$ 74,000										Solids processing evaluations at the Franklin WWTP using as-needed engineering and DES-wastewater engineering support services .
Wastewater Process Optimization	**O&M/CWSRF**	**$584,650**											Wastewater process improvements and evaluations are on-going at the Franklin WWTP.
Aeration System Automated Valves	CWSRF	**$ 320,150**											Automated valves for the aeration system to effectively deliver dissolved oxygen,; reducing labor and power costs. SRF principal forgiveness and utility incentives are available.
		$ 337,000		$ 137,000	$ 200,000								
		$ (16,850)			$ (16,850)								
Aeration Blower - smaller unit	CWSRF	**$ 200,000**											Smaller aeration blower to effectively deliver dissolved oxygen when reduced demand; reducing power costs. SRF principal forgiveness and utility incentives are available.
		$ 400,000		$ 200,000	$ 200,000								
		$ (200,000)			$ (200,000)								
Aeration Tank Diffuser Modifications - alternatives analysis & retrofit	O&M	**$ 64,500**		$ 21,500	$ 43,000								One alternative under consideration to help resolve elevated SVI levels is reconfiguring the aeration tank diffusers.
River Street WWTP Access Roadway Phased Rehabilitation		**$410,128**											Phased rehabilitation of sections of the 2.5+/- access road to the Franklin WWTP. FY19 roadwork awarded for three segments.
River Street - phased repaving and drainage rehabilitation and restoration	O&M	$ 410,128	$ 110,128			$ 150,000			$ 150,000				**Uses a $150K placeholder amount for future work.** Actual project phases and the annual and total costs will be developed but may include shim and overlay, chip sealing, repaving and repair or reclamations of different segments of the roadway every few years.
Maintenance of Process Tanks		**$918,560**											Rehab and on-going maintenance of tanks at the WWTP. Annual estimates are provided based on cost of previous work and projected schedule of work with a total of 10 tanks on a 6-7 year maintenance rotation; with 1 or 2 tanks addressed each year.
Tank cleaning, painting, rehab at WWTP	O&M	$ 918,560	$ 94,760	$ 94,760	$ 74,000	$ 49,000	$ 52,000	$ 94,760	$ 94,760	$ 143,760	$ 143,760	$ 77,000	
Total 10-year WWTP Project Costs		***$2,167,838***	***$459,388***	***$453,260***	***$300,150***	***$199,000***	***$52,000***	***$94,760***	***$244,760***	***$143,760***	***$143,760***	***$77,000***	
Collection System													
Phased Collection System Evaluations (See Note 6)		**$50,000**											**$50K used as minimum for CIP evaluations (See Note 6). A phased collection system assessment program including manhole and gravity sewer CCTV inspections is being conducted using in-house staff and contracotrs, if needed.** The WRBP has performed manhole, wetwell, pipeline, and CCTV inspections. Cost/benefit analysis for rehabilitation versus more invasive inspections will be determined by future inspection results if they reveal a need for repairs or replacement. Inspections to date have not identified any necessary capital projects.
Collection System Phased evaluations - camera, testing, I/I, etc.	O&M	$ 50,000			$ 50,000								
Pump Stations PLC and Telemetry - Alternative Analyses and Retrofits		**$284,000**											PLCs at the 14 WRBP pump stations will need to be retrofit with supported PLCs and radio telemetry will need to be updated and reconfigured to be compatible with new PLCs' communication protocols. Engineering evaluations and preliminary design prior to retrofits. Design, construction oversight, equipment procurement with contractor installation in order to maintain operations.
Alternatives evaluation - engineering	O&M	$ 20,000		$ 20,000									
PLC and Radio Retrofits, design and construction oversight	O&M	$ 264,000			$ 264,000								
Winnisquam Pump Station Emergency Power Alternatives Analysis (See Note 6)	O&M	**$50,000**			$ 50,000								**$50K used as minimum for CIP evaluations. (See Note 6)** Replacement generator set & enclosure vs modify existing pad, enclosure and controls.
Winnisquam Pump Station Compound Rehabilitation (See Note 6)	RF	**$50,000**			$ 50,000								**$50K used as minimum for CIP evaluations. (See Note 6)** Critical PS with no margin for failure. Evaluations will focus primarily on the subsurface configurations related to the PS.
Total 10-year Collection System Project Costs		***$434,000***	***$0***	***$20,000***	***$414,000***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	***$0***	
TOTAL ESTIMATED 10-YEAR EXPENDITURES:		**$2,634,838**	**$492,388**	**$473,260**	**$714,150**	**$199,000**	**$52,000**	**$94,760**	**$244,760**	**$143,760**	**$143,760**	**$77,000**	

FUNDING SUMMARY	TOTAL 10-YEAR	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
Funding Allocations											
State Revolving Fund (SRF) Loan	$927,000	$190,000	$337,000	$400,000	$0	$0	$0	$0	$0	$0	$0
General Obligation Bonds	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
WRBP Replacement Fund (RF) - See Note 3	$50,000	$0	$0	$50,000	$0	$0	$0	$0	$0	$0	$0
WRBP O&M Budget, including tank maintenance	$1,974,188	$401,888	$136,260	$481,000	$199,000	$52,000	$94,760	$244,760	$143,760	$143,760	$77,000
Capital Reserve Account - See Note 4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Totals:	**$2,951,188**	**$591,888**	**$473,260**	**$931,000**	**$199,000**	**$52,000**	**$94,760**	**$244,760**	**$143,760**	**$143,760**	**$77,000**
Other Funding Sources											
Grants	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Insurance/FEMA	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Rebates/Incentives	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Other (specify below):	-$316,350	-$99,500	$0	-$216,850	$0	$0	$0	$0	$0	$0	$0
Principal forgiveness from CWSRF											
Total Offsets:	**-$316,350**	**-$99,500**	**$0**	**-$216,850**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**
TOTAL PROJECT FUNDING:	**$2,634,838**	**$492,388**	**$473,260**	**$714,150**	**$199,000**	**$52,000**	**$94,760**	**$244,760**	**$143,760**	**$143,760**	**$77,000**

REVISION DATE: 10/17/2018

NOTES:

1. The State Fiscal year is from July 1st to June 30th. State budgeting is done biennially.
2. All dollar amount entries are presented in current year dollars (reflected by year provided in column #4). The annual rate impact to communities associated with committed debts will be presented to members in a separate document that will be updated when the commitment is formalized.
3. The WRBP Replacement Fund (RF) established at RSA 485-A:51 collects funds from members based upon the replacement cost of depreciable WRBP assets. This fund is for projects leading to, or involving, repairs and replacement of major equipment and infrastructure.
4. There is currently no Capital Reserve Account established for the WRBP.
5. CIP Program Summary to be updated by the Advisory Board CIP Workgroup annually and presented to the full board. Previous Summaries shall be archived in order to provide information on completed projects and
6. The CIP Subcommittee has chosen a value of $50K as a placeholder for potential projects to be included in the CIP. As such projects are evaluated further or prioritized for actual implementation, a more comprehensive cost estimate will be incorporated into the CIP.

CIP SUBCOMMITTEE MEMBERS: Wesley Anderson (Laconia, Subcommittee Chairman) Ray Korber (KVP, LLC. Consultant for Bay District) Steve Dolloff (Meredith)
WRBP REPRESENTATIVES: Sharon McMillin (WRBP Administrator)
ADVISORY BOARD CHAIRMAN: Brian Sullivan (Franklin)

WRBP Capital Improvements Project Worksheet

Project Name: Asset Management Program
Original Replacement Date:
Revised Replacement Date:
Location: Franklin WWTP, Pump Stations, Maintenance Shop, and Collection system

Importance of Project:	Mandatory		High	X	Low	
	Committed		Medium		On the Radar	

Project or Equipment Description: The Program incorporates existing historical information (ex. MP2 and malfunction databases), an asset inventory of vertical and horizontal assets with associated attributes evaluation (e.g. age, condition, life cycle costs, remaining useful life, asset value, replacement cost, risk, and criticality), an identified expected level of service and potential alternative funding sources. The Program has the capability to generate maintenance/inspection work orders, collect and manage data with report generation, track/report malfunctions and repair/replacement history, forecast repairs/retrofit, monitor and forecast life cycle and repair/rehab/replacement expenses as they relate to capital and O&M costs. During the initial phase of the program a c GIS map of the WRBP collection system with linked WRBP plans was created and access to community information, when available. The asset management software platform replaces the obsolete MP2 work order software program. Procedures, training, schedules, and policies to update and maintain the data, interfaces and reporting capabilities are being implemented. Consulting assistance for incorporating asset condition and criticality into the platform will by completed in FY19.

Multi-phased Project: Yes/No Yes - The initial development and population of an Asset Management platform with continued programmatic implementation

Expected Useful Life: N/A for evaluation

Justification: The collection system and WWTP condition assessments and asset information will be integrated into this program initiative to assist the WRBP in developing an enhanced multi-year CIP, further identify areas for improvement and quantify system assets for potential cost allocation between communities. The goal is to reduce costs by forecasting and targeting funds for necessary repairs, upgrades and inspections to maintain a sustainable, cost effective, complaint operation. The obsolete MP2 work order software needs to be replaced since it is no longer supported and does not provide necessary reporting or forecasting functions. Funding through principal forgiveness is currently available from the CWSRF program for three phases of implementation. Each phase is eligible for $30K; making the implementation of this necessary initiative at this time more cost effective for rate payers.

Impact of Cancelled or Delayed Project: Without documentation and a systematic approach to asset management, there can be insufficient detailed information available to validate cost/benefit decisions on capital or O&M expenditures. Collection system mapping will improve communications with contractors, member communities, regulators, and other stakeholders and provide a framework and nomenclature for asset identification. The MP2 work order system is obsolete and no longer supported so a new platform with work order and other asset management reporting and information archiving capabilities is needed.

Project Score

Criteria	Weighting	Priority (3-0)	Score
Mandatory			
NPDES Compliance	12	1	12
Health & Safety	12	1	12
Environmental	12	0	0
Maintenance			
Maintain, Repair, Replace	7	2	14
O&M Cost & Efficiency			
O&M Cost	10	2	20
Efficiency	5	2	10
Project Delivery	2	3	6
Expected Useful Life			
Expected Useful Life	5	2	10
Availability of Funding			
Availability of Funding	5	0	0
Total Comparative Project Score			84

Project Drivers and Operating Impacts

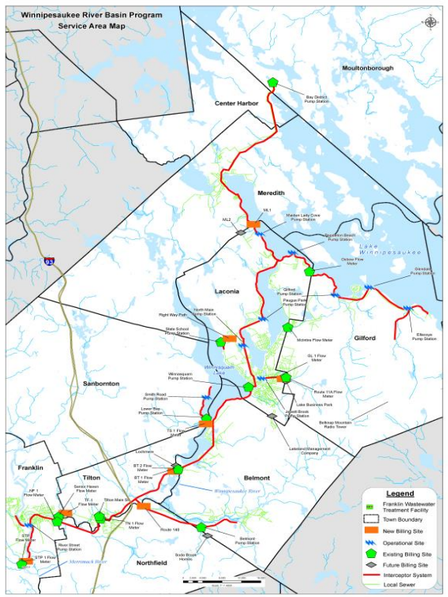
Is project currently part of the CIP?	YES
Is this project due to regulatory compliance?	NO
Is this project due to wastewater treatment capacity issues?	NO
Is this project due to other operational issues?	NO
Is this a repair or replacement project?	NO
Is this a new infrastructure project?	NO

Annual Estimated Operating Costs	**Amount**
Personnel	$ -
Maintenance	$ -
Expenses	$ -
Total Projected Annual Cost	$0

Funding Sources

Source	**Amount**	**%**
Member Assessments		
Loan (__ yr @ ____ %)		0%
Bond (__ yr @ ____%)		0%
WRBP Replacement Fund		0%
WRBP O&M Budget	$ 123,000	
Other Funding Sources		
Grants (SRF loan forgiveness)	$ (90,000)	
Insurance/FEMA		0%
Rebates		0%
Total	$ 33,000	

Picture(s)



Project Cost Summary

Project Cost assumes:		**Amount**
Asset management support from Wright-Pierce.	Planning/Eng support	$ 80,000
	Design	
	Bidding	
	Construction Admin	
	Resident Eng.	
	Construction	
	Contingency	
	Procurement/Licensing	$ 43,000
	SRF incentive	$ (90,000)
	Total Project Costs	$ 33,000

Projected Funding Needs

Fiscal Year	**Amount**	**Comments**
FY 19 Request w/ credits	$ 33,000	in FY19 dollars
FY 20 Request		in FY19 dollars
FY 21 Request		in FY19 dollars
FY 22 Request		in FY19 dollars
FY 23 Request		in FY19 dollars
FY 24 Request		in FY19 dollars
FY 25 Request		in FY19 dollars
FY 26 Request		in FY19 dollars
FY 27 Request		in FY19 dollars
FY 28 Request		in FY19 dollars
Total estimated 10-year costs	$ 33,000	

REVISION DATE: 10/17/2018 **SUBMITTED BY:** CIP Subcommittee to Advisory Board

WRBP Capital Improvements Project Worksheet

Project Name: Emergency Back-up Generator at Franklin WWTP
Original Replacement Date:
Revised Replacement Date:
Location: Franklin WWTP

Importance of Project:						
	Mandatory		High	X	Low	
	Committed		Medium		On the Radar	

Project or Equipment Description: The two turbine generators installed on the second floor of the main building as original equipment at the WWTP over 39 years ago can be replaced with a single, right-sized diesel generator located outside building and above the 100-year flood plain. Replacement of the two original back-up generators with a single self-contained diesel generator with integral fuel tank will be sized to provide sufficient power to the WWTP so critical facility operations can be maintained during power outages. A concrete pad and interconnection to the recently upgraded main electrical switchgear will be performed by WRBP staff and contractors. The switchgear replacement project completed in FY16 included installation of the conduits and handhole necessary to facilitate the new generator's installation; reducing the overall cost and complexity of this project.

Multi-phased Project: Yes/No No - Sizing and location of new generator already determined so installation can proceed.

Expected Useful Life: 30 + years for upgrade

Justification: Adequate back-up power is required by the WRBP's NPDES permit. The existing turbine generators' combined control system has obsolete components that cannot be repaired or replaced and so the entire control system would need to be replaced with a new, custom control system upon its failure. Estimates to replace the system that controls both generators approaches the cost of a new diesel generator and would not address the age or increasingly difficult sourcing of parts or lack of qualified technicians available to troubleshoot and repair the turbine generators.

Impact of Cancelled or Delayed Project: Failure of the combined control system would not allow the existing generators to run when needed. Inability to obtain replacement parts such as the stepper switch which represents a single point of failure that would incapacitate both generators. The lack of access to qualified repair technicians could lead to long-term, costly use of rental generators in the event of failure of the back-up power generator system.

Project Score

Criteria	Weighting	Priority (3-0)	Score
Mandatory			
NPDES Compliance	12	2	24
Health & Safety	12	1	12
Environmental	12	0	0
Maintenance			
Maintain, Repair, Replace	7	3	21
O&M Cost & Efficiency			
O&M Cost	10	3	30
Efficiency	5	3	15
Project Delivery	2	2	4
Expected Useful Life			
Expected Useful Life	5	3	15
Availability of Funding			
Availability of Funding	5	0	0
Total Comparative Project Score			121

Project Drivers and Operating Impacts

Is project currently part of the CIP?	YES
Is this project due to regulatory compliance?	NO
Is this project due to wastewater treatment capacity issues?	NO
Is this project due to other operational issues?	YES
Is this a repair or replacement project?	YES
Is this a new infrastructure project?	NO

Annual Estimated Operating Costs	**Amount**
Personnel	$ -
Maintenance	$ -
Expenses	$ -
Total Projected Annual Cost	$0

Project Cost Summary	**Amount**
Project Cost assumes:	
Planning	
Design (review)	$ 5,000
Bidding	
Construction Admin	
Resident Eng.	
Construction	$ 185,000
Contingency	
SRF incentive	$ (9,500)
Total Project Costs	$ 180,500

Funding Sources

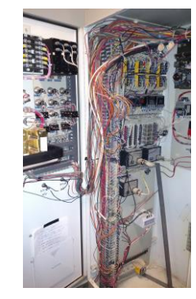
Source	**Amount**	**%**
Member Assessments		
Loan (__ yr @ ____ %)		0%
Bond (__ yr @ ____%)		0%
WRBP Replacement Fund		0%
WRBP O&M Budget	$ 190,000	
Other Funding Sources		
Grants		0%
Insurance/FEMA		0%
Rebates	$ (9,500)	
Total	$ 180,500	

Projected Funding Needs

Fiscal Year	**Amount**	**Comments**
FY 19 Request w/ credits	$ 180,500	in FY19 dollars
FY 20 Request		in FY19 dollars
FY 21 Request		in FY19 dollars
FY 22 Request		in FY19 dollars
FY 23 Request		in FY19 dollars
FY 24 Request		in FY19 dollars
FY 25 Request		in FY19 dollars
FY 26 Request		in FY19 dollars
FY 27 Request		in FY19 dollars
FY 28 Request		in FY19 dollars
Total estimated 10-year costs	$ 180,500	

Picture(s)

Solar ™ Turbine Generator



Custom Controller Wiring

Control panel for generators

Stepper switch

REVISION DATE: 10/4/2018 **SUBMITTED BY:** CIP Subcommittee to Advisory Board

WRBP Capital Improvements Project Worksheet

Project Name: Solids Handling Optimization
Original Replacement Date:
Revised Replacement Date:
Location: Franklin WWTP

Importance of Project:	Mandatory		High	X	Low	
	Committed		Medium		On the Radar	

Project or Equipment Description: Optimization of the solids handling processes at the WWTP is recommended to evaluate the digesters, sludge thickening and dewatering, heat exchangers, gas handling and utilization. Retrofit of anaerobic digesters' gas piping that had deteriorated occurred over the last several years, as needed. A Solids Handling Master Plan is under development to outline the necessary upgrades, process modifications, and state of good repair projects that the WRBP may need to undertake over the course of the next 20-year planning period. focused evaluation of long-term alternatives that considers appropriate options given site-specific operation, location, and history. Options considered will make the best use of existing resources, minimize reactive maintenance, and improve operational efficiency. Opportunities for improvements to sludge thickening, digester mixing, dewatering stability, and digestate withdrawal have been identified. These, and other optimization scenarios, will be assessed for their potential to improve process efficiency and analyzed within the context of overall capital needs and projects necessary to maintain a state of good repair.

Multi-phased Project: Yes/No Yes - Optimizations and additional evaluations will determine need, cost effectiveness, and priority of potential future upgrades.

Expected Useful Life: N/A for evaluation

Justification: Improved solids handing and processing at the WWTP may help to reduce operating costs, increase digester capacity by increased efficiency, and reduce the need for future expansion of digestion facilities. Upgrade of this septage capability was identified as one potential area of improvement in the Septage Study performed by Underwood Engineering in 2009. The CDM 2009 Preliminary Design Summary Report also identified areas for improvement in the solids handing processes at the WWTP. Additional recommendations in the MOM Study completed in 2014 are under consideration.

Impact of Cancelled or Delayed Project: Evaluation and implementation of recommendations and optimized processes may increase cost effectiveness of operations without significant capital expenditures. Future projects may be identified and prioritized based upon these optimization evaluations.

Project Score

Criteria	Weighting	Priority (3-0)	Score
Mandatory			
NPDES Compliance	12	0	0
Health & Safety	12	0	0
Environmental	12	0	0
Maintenance			
Maintain, Repair, Replace	7	2	14
O&M Cost & Efficiency			
O&M Cost	10	2	20
Efficiency	5	2	10
Project Delivery	2	3	6
Expected Useful Life			
Expected Useful Life	5	3	15
Availability of Funding			
Availability of Funding	5	3	15
Total Comparative Project Score			80

Project Drivers and Operating Impacts

Is project currently part of the CIP?	YES
Is this project due to regulatory compliance?	NO
Is this project due to wastewater treatment capacity issues?	NO
Is this project due to other operational issues?	YES
Is this a repair or replacement project?	NO
Is this a new infrastructure project?	NO

Annual Estimated Operating Costs	**Amount**
Personnel	$ -
Maintenance	$ -
Expenses	$ -
Total Projected Annual Cost	$0

Project Cost Summary		**Amount**
Project Cost assumes:		
Solids Handling Master Plan preliminary scope and no-to-exceed budget developed with Brown and Caldwell.	Planning	$ 74,000
	Design	
	Bidding	
	Construction Admin	
	Resident Eng.	
	Construction	
	Contingency	
	Total Project Costs	$ 74,000

Funding Sources

Source	**Amount**	**%**
Member Assessments		
Loan (__ yr @ ____ %)		0%
Bond (__ yr @ ____%)		0%
WRBP Replacement Fund		0%
WRBP O&M Budget	$ 74,000	100%
Other Funding Sources		
Grants		0%
Insurance/FEMA		0%
Rebates		0%
Total	$ 74,000	

Projected Funding Needs

Fiscal Year	**Amount**	**Comments**
FY 19 Request w/ credits	$ 74,000	in FY19 dollars
FY 20 Request		in FY19 dollars
FY 21 Request		in FY19 dollars
FY 22 Request		in FY19 dollars
FY 23 Request		in FY19 dollars
FY 24 Request		in FY19 dollars
FY 25 Request		in FY19 dollars
FY 26 Request		in FY19 dollars
FY 27 Request		in FY19 dollars
FY 28 Request		in FY19 dollars
Total estimated 10-year costs	$ 74,000	

Picture(s)

Septic Receiving Area and Thickener

Digester Heat Exchanger #1

REVISION DATE: 10/4/2018 **SUBMITTED BY:** CIP Subcommittee to Advisory Board

WRBP Capital Improvements Project Worksheet

Project Name: Wastewater Process Optimization
Original Replacement Date:
Revised Replacement Date:
Location: Franklin WWTP

Importance of Project:						
	Mandatory		High	X	Low	
	Committed		Medium		On the Radar	

Project or Equipment Description: Optimization of the wastewater processes at the WWTP is recommended in the Maintenance Operations and Management (MOM) Study completed in 2014 and is part of the subsequent Implementation Plan. Data analysis is on-going following the installation of additional sensors in the aeration tanks in FY17. Retrofit of aeration tank diffusers is one option being explored to redistribute dissolved oxygen (DO) to augment biologic activity, reduce SVI levels and septicity. Three potential sub-projects have been identified and SRF applications for energy incentive funding have been approved, contingent upon completion of an energy audit in 2019 and development of a scope and budget for any or all sub-projects. The sub-projects include the previously identified retrofit of the aeration tank diffusers, plus installation of a smaller aeration blower and automated valves to better distribute the air to the aeration tanks. No final decision has been made to proceed with the modifications to the aeration tanks or to pursue other alternatives. This is an on-going initiative.

Multi-phased Project: Yes/No Yes - Optimizations and additional evaluations will determine need, cost effectiveness, and priority of potential future upgrades.

Expected Useful Life: N/A for evaluation

Justification: Wastewater process optimization at the WWTP will help reduce operating costs, improve efficiency, document procedures, maintain compliance, and potentially reduce operating costs. The goal is to undertake systematic evaluations and identify projects to minimize potential future capital projects.

Impact of Cancelled or Delayed Project: Evaluation and implementation of recommendations and optimized processes may increase cost effectiveness of operations without significant capital expenditures. The potential sub-projects as well as other future projects may be identified and prioritized based upon optimization evaluations.

Project Score

Criteria	Weighting	Priority (3-0)	Score
Mandatory			
NPDES Compliance	12	3	36
Health & Safety	12	0	0
Environmental	12	1	12
Maintenance			
Maintain, Repair, Replace	7	1	7
O&M Cost & Efficiency			
O&M Cost	10	1	10
Efficiency	5	1	5
Project Delivery	2	1	2
Expected Useful Life			
Expected Useful Life	5	1	5
Availability of Funding			
Availability of Funding	5	0	0
Total Comparative Project Score			77

Project Drivers and Operating Impacts

Is project currently part of the CIP?	YES
Is this project due to regulatory compliance?	YES
Is this project due to wastewater treatment capacity issues?	NO
Is this project due to other operational issues?	YES
Is this a repair or replacement project?	YES
Is this a new infrastructure project?	NO

Annual Estimated Operating Costs	**Amount**
Personnel	$ -
Maintenance	$ -
Expenses	$ -
Total Projected Annual Cost	$0

Funding Sources

Source	**Amount**	**%**
Member Assessments		
Loan (__ yr @ ____ %)		0%
Bond (__ yr @ ____%)		0%
WRBP Replacement Fund		0%
WRBP O&M Budget	$ 801,500	137%
Other Funding Sources		
Grants		0%
Insurance/FEMA		0%
Rebates	$ (216,850)	-37%
Total	$ 584,650	

Project Cost Summary

Project Cost assumes: Aeration tank diffuser retrofit option estimate is based on 2005 escalated costs for similar work. Installation of a smaller aeration blower and automated valves is based on FY19 SRF application estimates including contingency. All sub-projects combined.

	Amount
Planning	$ 40,000
Design	$ 55,000
Bidding	
Construction Admin	
Resident Eng.	$ 45,000
Construction	$ 611,500
Contingency	$ 50,000
SRF incentive	$ (216,850)
Total Project Costs	$ 584,650

Projected Funding Needs

Fiscal Year	**Amount**	**Comments**
FY 19 Request		in FY19 dollars
FY 20 Request	$ 358,500	in FY19 dollars
FY 21 Request w/ credits	$ 226,150	in FY19 dollars
FY 22 Request		in FY19 dollars
FY 23 Request		in FY19 dollars
FY 24 Request		in FY19 dollars
FY 25 Request		in FY19 dollars
FY 26 Request		in FY19 dollars
FY 27 Request		in FY19 dollars
FY 28 Request		in FY19 dollars
Total estimated 10-year costs	$ 584,650	

Picture(s)

Wastewater Clarifier

Aeration Tank with Fine Bubble Diffusers

"Turbo" Aeration Blowers

REVISION DATE: 10/16/2018 **SUBMITTED BY:** CIP Subcommittee to Advisory Board

WRBP Capital Improvements Project Worksheet

Project Name: River Street WWTP Access Roadway Phased Rehabilitation
Original Replacement Date:
Revised Replacement Date:
Location: Franklin WWTP Access Road

Importance of Project:						
	Mandatory		High		Low	
	Committed		Medium		On the Radar	X

Project or Equipment Description: Phased rehabilitation of the main access road to the WWTP including inspection and restoration of drainage culverts, drainage improvements (ditches, grading, etc.), and pavement reclamation or restoration (previously estimated at 13,300 linear feet). Guardrail removal and additional signage should be investigated. Crack seal to stabilize the road was completed in 2013 in order to prevent further deterioration. Spot restoration and re-paving was done at two locations in 2015. tree removal in FY17 and FY18 along the road has prevented the ice buildup that created hazardous conditions and escalated the deterioration of the road. FY19 scope includes restoration of three segments totally 2,566 linear feet, including the "washboard" section. Culverts in those areas were inspected and no deficiencies found. Future options include single or double chip seal and crack seal of some portions, with drag and shim of other portions. Restoration including chip seal, shoulder work and drainage structures is planned in a phased approach to prevent further significant deterioration.

Multi-phased Project: Yes/No Yes

Expected Useful Life: 15-29 years, to preserve existing infrastructure.

Justification: Significant portions of the 2.4 mile long access roadway are at the end of its expected useful life. Heavy loads and lack of appropriate drainage have created tire wear depressions along sections of the roadway, perpendicular cracks span the entire width of the roadway, cracking around manholes, areas of "washboard", poor drainage creating subsidence (depressions) with standing water and excess icing conditions in some areas. This project will preserve existing infrastructure.

Impact of Cancelled or Delayed Project: If this project is delayed or cancelled there will be continued deterioration of the access roadway and associated drainage and higher future cost for rehabilitation/reconstruction or road reverting to gravel.

Project Score

Criteria	Weighting	Priority (3-0)	Score
Mandatory			
NPDES Compliance	12	0	0
Health & Safety	12	0	0
Environmental	12	0	0
Maintenance			
Maintain, Repair, Replace	7	2	14
O&M Cost & Efficiency			
O&M Cost	10	1	10
Efficiency	5	2	10
Project Delivery	2	0	0
Expected Useful Life			
Expected Useful Life	5	2	10
Availability of Funding			
Availability of Funding	5	0	0
Total Comparative Project Score			44

Project Drivers and Operating Impacts

Is project currently part of the CIP?	YES
Is this project due to regulatory compliance?	NO
Is this project due to wastewater treatment capacity issues?	NO
Is this project due to other operational issues?	NO
Is this a repair or replacement project?	YES
Is this a new infrastructure project?	NO

Annual Estimated Operating Costs	**Amount**
Personnel	
Maintenance	
Expenses	
Total Projected Annual Cost	

Project Cost Summary

Project Cost assumes:
$150K is a placeholder amount with actual amounts determined by phasing and scope of work. FY19 work was bid and awarded below this budget.

	Amount
Planning	
Design	
Construction Admin	
Resident Eng.	
Construction	$ 410,128
Contingency	
Total Project	$ 410,128

Funding Sources

Source	**Amount**	**%**
Member Assessments		
Loan (__yr @ ____%)	$ -	0%
Bond (__ yr @ ____%)	$ -	0%
WRBP Replacement Fund		0%
WRBP O&M Budget	$ 410,128	100%
Other Funding Sources		
Grants	$ -	0%
Insurance/FEMA	$ -	0%
Rebates	$ -	0%
Totals	$ 410,128	

Projected Funding Needs

Fiscal Year	**Amount**	**Comments**
FY 19 Request	$110,128.00	in FY19 dollars
FY 20 Request		in FY19 dollars
FY 21 Request		in FY19 dollars
FY 22 Request	$150,000.00	in FY19 dollars
FY 23 Request		in FY19 dollars
FY 24 Request		in FY19 dollars
FY 25 Request	$150,000.00	in FY19 dollars
FY 26 Request		in FY19 dollars
FY 27 Request		in FY19 dollars
FY 28 Request		in FY19 dollars
Total estimated 10-year costs	$ 410,128	

Picture(s)

River St. drainage structures

REVISION DATE: 10/4/2018

SUBMITTED BY: CIP Subcommittee to Advisory Board

WRBP Capital Improvements Project Worksheet

Project Name: Maintenance of Process Tanks
Original Replacement Date:
Revised Replacement Date:
Location: Franklin WWTP

Importance of Project:						
	Mandatory		High		Low	
	Committed		Medium	X	On the Radar	

Project or Equipment Description: Provides for maintenance (cleaning, material disposal, painting, metalwork sandblasting, turntable retrofits, etc.) of steel and concrete tanks at the WWTP, typically on a six to seven year rotation, in order to preserve infrastructure important to the function of the facility. Total of 10 tanks with 1 or 2 tanks typically addressed each year.

Multi-phased Project: Yes/No Yes

Expected Useful Life: 5-14 years, to preserve existing infrastructure

Justification: Preserves infrastructure important to the function of the facility and allows scheduling to meet the operational requirements of the WWTP. Tank cleaning, surface preparation and painting is outside the current capabilities of the WRBP, so competitively bid service contracts are utilized.

Impact of Cancelled or Delayed Project: Since the tank maintenance is incorporated into the O&M schedule and budget, delay or cancellation for a long term could lead to disruption of operations when maintenance is unscheduled or potentially more costly emergency repairs if there is significant deterioration of the infrastructure.

Project Score

Criteria	Weighting	Priority (3-0)	Score
Mandatory			
NPDES Compliance	12	0	0
Health & Safety	12	0	0
Environmental	12	0	0
Maintenance			
Maintain, Repair, Replace	7	2	14
O&M Cost & Efficiency			
O&M Cost	10	0	0
Efficiency	5	2	10
Project Delivery	2	2	4
Expected Useful Life			
Expected Useful Life	5	1	5
Availability of Funding			
Availability of Funding	5	0	0
Total Comparative Project Score			33

Project Drivers and Operating Impacts

Is project currently part of the CIP?	YES
Is this project due to regulatory compliance?	NO
Is this project due to wastewater treatment capacity issues?	NO
Is this project due to other operational issues?	NO
Is this a repair or replacement project?	YES
Is this a new infrastructure project?	NO

Annual Estimated Operating Costs	**Amount**
Personnel	
Maintenance	
Expenses	
Total Projected Annual Cost	$0

Project Cost Summary

Project Cost assumes:		
Incorporated into annual O&M costs	Planning	
	Design	
	Bidding	
	Construction Admin	
	Resident Eng.	
	Construction	$ 918,560
	Contingency	
	Total Project	

Funding Sources

Source	**Amount**	**%**
Member Assessments		
Loan (__ yr @ ____ %)		0%
Bond (__ yr @ ____%)		0%
WRBP Replacement Fund		0%
WRBP O&M Budget (annual average)	$ 91,856	100%
Other Funding Sources		
Grants		0%
Insurance/FEMA		0%
Rebates		0%
Totals	$ 91,856	

Projected Funding Needs

Fiscal Year	**Amount**	**Comments**
FY 19 Request	$ 94,760	in FY19 dollars
FY 20 Request	$ 94,760	in FY19 dollars
FY 21 Request	$ 74,000	in FY19 dollars
FY 22 Request	$ 49,000	in FY19 dollars
FY 23 Request	$ 52,000	in FY19 dollars
FY 24 Request	$ 94,760	in FY19 dollars
FY 25 Request	$ 94,760	in FY19 dollars
FY 26 Request	$ 143,760	in FY19 dollars
FY 27 Request	$ 143,760	in FY19 dollars
FY 28 Request	$ 77,000	in FY19 dollars
Total estimated 10-year costs	$ 918,560	

Picture(s)

Aerial Photo of Franklin WWTP showing Multiple Tanks

REVISION DATE: 10/4/2018 **SUBMITTED BY:** CIP Subcommittee to Advisory Board

WRBP Capital Improvements Project Worksheet

Project Name: Phased Collection System Evaluations
Original Replacement Date:
Revised Replacement Date:
Location: WRBP Collection System

Importance of Project:						
	Mandatory	X	High	X	Low	
	Committed		Medium		On the Radar	

Project or Equipment Description: On-going phased collection system evaluations of interceptor piping, manholes, and appurtenances to determine condition of the subsurfacce infrastructure, identify locations with potentially excessive Infiltration/Inflow (I/I), develop a repair/maintenance program when needed, confirm connection (tap) locations and condition, update plans accordingly, and report such studies and evaluations to the EPA and the NHDES. This work includes camera surveys, testing, inspections, etc. Inspection results will help develop cost/benefits of removing extraneous flows to the collection system versus capacity expansion. Historically, failures in the collection system have occurred in force mains due to corrosion from the exterior. Information from the collection system condition assessments will be incorporated into the Asset Management Program. To date, inspections have not shown any areas needing capital project repairs or further evaluations. The $50K placeholder amount is used in the CIP until such time as a more comprehensive scope and budget are developed for any identified capital project needs.

Multi-phased Project: Yes/No Yes

Expected Useful Life: 15-29 years

Justification: The NPDES permit requires "an inspection program to identify potential and actual unauthorized discharges" into the collection system. The WRBP member communities are assessed their apportioned share of costs, in part, based on collection system flows attributable to their sewer users. Therefore, I/I into the WRBP interceptors may erroneously be attributed disproportionately. Controlling I/I will reduce the need for future capital projects to expand capacity of pump stations or the WWTP. The Asset Management Program implementation is capturing asset condition and criticality for all assets and collection system inspections of subsurface infrastructure will identify other areas to be prioritized for further evaluations or possible corrective measures either by WRBP staff or contractors. Condition assessment of the collection system assets incorporated into the Asset Management Program and CIP will help identify and prioritize future investigations and rehabilitation work.

Impact of Cancelled or Delayed Project: Sewer overflows stemming from excessive I/I or other events are a violation of the NPDES permit. The WRBP collection system is 30+/- years old and this project will help identify areas where maintenance or repair of the collection system is necessary to maintain the critical infrastructure. This project will identify and document the condition of existing infrastructure and mitigate potential future higher costs to respond to sewer overflows, perform emergency repairs, or expand wastewater capacity at pump stations and the WWTP.

Project Score

Criteria	Weighting	Priority (3-0)	Score
Mandatory			
NPDES Compliance	12	2	24
Health & Safety	12	2	24
Environmental	12	2	24
Maintenance			
Maintain, Repair, Replace	7	2	14
O&M Cost & Efficiency			
O&M Cost	10	1	10
Efficiency	5	2	10
Project Delivery	2	2	4
Expected Useful Life			
Expected Useful Life	5	2	10
Availability of Funding			
Availability of Funding	5	0	0
Total Comparative Project Score			120

Project Drivers and Operating Impacts	
Is project currently part of the CIP?	YES
Is this project due to regulatory compliance?	YES
Is this project due to wastewater treatment capacity issues?	NO
Is this project due to other operational issues?	NO
Is this a repair or replacement project?	NO
Is this a new infrastructure project?	NO

Annual Estimated Operating Costs	**Amount**
Personnel	
Maintenance (integrated into existing O&M budget)	
Expenses	
Total Projected Annual Cost	$0

Project Cost Summary		**Amount**
Project Cost assumes:		
The $50K placeholder amount is used in the CIP until such time as a more comprehensive scope and budget are developed for any identified capital project needs. To date, inspections have not shown any areas needing capital project repairs or further evaluations.	Planning	$ 50,000
	Design	
	Bidding	
	Construction Admin	
	Resident Eng.	
	Construction	
	Contingency	
	Total Project Costs	$ 50,000

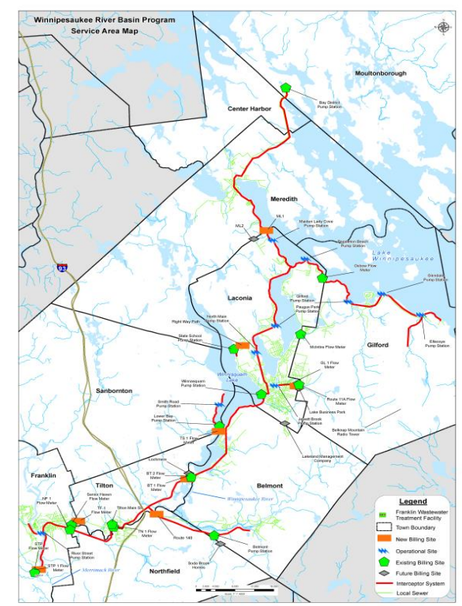
Funding Sources

Source		**Amount**	**%**
Member Assessments			
Loan (__ yr @ ____ %)	$	-	0%
Bond (__ yr @ ____%)	$	-	0%
WRBP Replacement Fund			0%
WRBP O&M Budget (annual average)	$	50,000	100%
Other Funding Sources			
Grants	$	-	0%
Insurance/FEMA	$	-	0%
Rebates	$	-	0%
Total	$	50,000	

Projected Funding Needs

Fiscal Year	**Amount**	**Comments**
FY 19 Request		in FY19 dollars
FY 20 Request		in FY19 dollars
FY 21 Request	$50,000.00	in FY19 dollars
FY 22 Request		in FY19 dollars
FY 23 Request		in FY19 dollars
FY 24 Request		in FY19 dollars
FY 25 Request		in FY19 dollars
FY 26 Request		in FY19 dollars
FY 27 Request		in FY19 dollars
FY 28 Request		in FY19 dollars
Total estimated 10-year costs	$ 50,000	

Picture(s)



REVISION DATE: 10/17/2018

SUBMITTED BY: CIP Subcommittee to Advisory Board

WRBP Capital Improvements Project Worksheet

Project Name: Pump Station PLC and Telemetry - Alternatives Analyses and Retrofits
Original Replacement Date:
Revised Replacement Date:
Location: Franklin WWTP

Importance of Project:						
	Mandatory	X	High	X	Low	
	Committed		Medium		On the Radar	

Project or Equipment Description: Updating all 14 pump station's Programmable Logic Controllers (PLCs) needs to occur during the same project and include concurrent radio telemetry equipment and interface updates and other software programs communicating and controlling the stations. Engineering support will be necessary to determine the most appropriate PLCs, software, communications protocols, and sequencing of retrofits to maintain complaint operations. A radio path study has already been completed for most locations but further analysis is necessary to select the most feasible and cost-effective option for frequency and pathways. Current estimates range from $15-$16K per pump station to replace the PLCs with the radio telemetry upgrades that would be necessary. $60K is included for engineering evaluations, design, and construction oversight. The estimated amount of $284K total is used in the CIP until such time as a more comprehensive scope and budget are developed.

Multi-phased Project: Yes/No Yes - coordination of work at all locations will be required to maintain SCADA and communications systems

Expected Useful Life: 15-29 years

Justification: Existing PLCs installed during the SCADA implementation in 2000 in the 14 WRBP pump stations are nearing the end of their useful life and will not be supported by the manufacturer or software vendors. The telemetry systems will need to be updated to interface with the new PLCs and alleviate current connectivity issues.

Impact of Cancelled or Delayed Project: If failures occur, existing SCADA and radio telemetry systems will be jeopardized, necessitating repairs to outdated equipment since newer equipment will not interface with existing PLCs or radio modules. If telemetry is lost other options for monitoring and control would be needed, including increased staffing or alternative communications methods such as real-time telephone, cellular or satellite services that would require additional equipment, programming, and significant added cost. Loss of monitoring and control could lead to discharges to the environment or damage to equipment.

Project Score

Criteria	Weighting	Priority (3-0)	Score
Mandatory			
NPDES Compliance	12	1	12
Health & Safety	12	1	12
Environmental	12	2	24
Maintenance			
Maintain, Repair, Replace	7	3	21
O&M Cost & Efficiency			
O&M Cost	10	1	10
Efficiency	5	2	10
Project Delivery	2	2	4
Expected Useful Life			
Expected Useful Life	5	2	10
Availability of Funding			
Availability of Funding	5	0	0
Total Comparative Project Score			103

Project Drivers and Operating Impacts

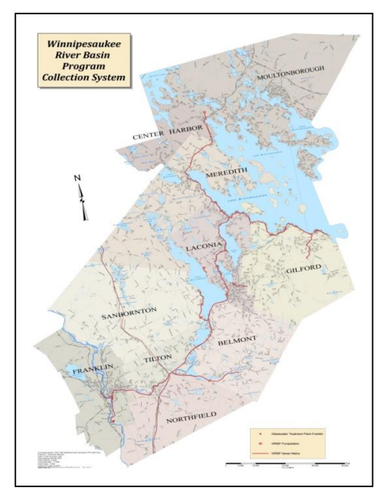
Is project currently part of the CIP?	YES
Is this project due to regulatory compliance?	YES
Is this project due to wastewater treatment capacity issues?	NO
Is this project due to other operational issues?	NO
Is this a repair or replacement project?	NO
Is this a new infrastructure project?	NO

Annual Estimated Operating Costs	**Amount**
Personnel	
Maintenance (integrated into existing O&M budget)	
Expenses	
Total Projected Annual Cost	$0

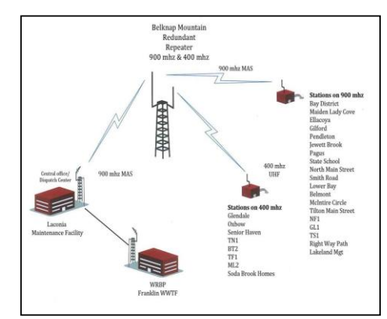
Funding Sources

Source	**Amount**	**%**
Member Assessments		
Loan (__ yr. @ ____ %)	$ -	0%
Bond (__ yr. @ ____%)	$ -	0%
WRBP Replacement Fund		0%
WRBP O&M Budget (annual average)	$ 284,000	100%
Other Funding Sources		
Grants	$ -	0%
Insurance/FEMA	$ -	0%
Rebates	$ -	0%
Total	$ 284,000	

Picture(s)



PLCs at 14 pump stations



Radio telemetry schematic

Project Cost Summary

Project Cost assumes:
Estimates are based on preliminary budget. Final project costs will depend on final scope and schedule.

		Amount
Planning	$	20,000
Design		
Bidding		
Construction Admin	$	40,000
Resident Eng.		
Construction	$	224,000
Contingency		
Total Project Costs	$	284,000

Projected Funding Needs

Fiscal Year	**Amount**	**Comments**
FY 19 Request		in FY19 dollars
FY 20 Request	$20,000.00	in FY19 dollars
FY 21 Request	$264,000.00	in FY19 dollars
FY 22 Request		in FY19 dollars
FY 23 Request		in FY19 dollars
FY 24 Request		in FY19 dollars
FY 25 Request		in FY19 dollars
FY 26 Request		in FY19 dollars
FY 27 Request		in FY19 dollars
FY 28 Request		in FY19 dollars
Total estimated 10-year costs	$ 284,000	

REVISION DATE: 10/4/2018 **SUBMITTED BY:** CIP Subcommittee to Advisory Board

WRBP Capital Improvements Project Worksheet

Project Name: Winnisquam Pump Station Emergency Power Alternative Analysis
Original Replacement Date:
Revised Replacement Date:
Location: Winnisquam Pump Station, Laconia

Importance of Project:						
	Mandatory		High		Low	X
	Committed		Medium		On the Radar	

Project or Equipment Description: An alternative analysis for the Winnisquam Pump Station emergency generator which supplies power to the pump station and maintenance shop is housed in an enclose that is too small, lacking adequate space for routine O&M, and does not provide sufficient power output to run the facility during higher flow periods (it fails if the conditions call for 3 pumps to be run simultaneously). Additional PLC programming may alleviate some of the power failure conditions. The Maintenance Shop (and its associated electrical connections such as exterior lighting) are powered from the pump station MCC (configuration does not meet current NEC regulations) adding unnecessary load to the emergency generator, causing it to fail when additional pumps are called to run. Options under consideration include replacement of existing generator with an enclosed system sized to provide sufficient power to the compound or retrofit of the existing generator's enclose and concrete pad to allow adequate space for O&M with a second generator installed to augment power output so facility operation can be maintained under all conditions. These options will require modifications to the power distribution on the site. An energy audit is scheduled in 2019 to facilitate this project.

Multi-phased Project: Yes/No Yes - Evaluation needs to be performed in order to determine need and priority of future upgrades.

Expected Useful Life: 30 + years for upgrade

Justification: This pump station, located immediately adjacent to Lake Winnisquam, handles approximately 60% of the WRBP wastewater flows from the collection system. Failure of this pump station may quickly lead to sewer overflow into the environment, adversely impacting the water quality of the Lake. The pump station electrical systems and existing emergency generator configuration have been identified as one significant point of potential failure which would lead to the pump station failing to adequately operate. A preliminary plan was described in the Master Plan of Improvements for the Laconia Compound prepared in 2001 by CDM

Impact of Cancelled or Delayed Project: The risk of pump station failure increases with the age of installed equipment and more frequent power outage events. Pump station failure, especially for this high volume station located next to the Lake, could quickly lead to discharge to the environment, impact to the water quality of Lake Winnisquam, and impact to the economic welfare of the area due to the proximity to the public boat ramp and the recreational uses of the Lake.

Project Score

Criteria	Weighting	Priority (3-0)	Score
Mandatory			
NPDES Compliance	12	0	0
Health & Safety	12	0	0
Environmental	12	0	0
Maintenance			
Maintain, Repair, Replace	7	2	14
O&M Cost & Efficiency			
O&M Cost	10	1	10
Efficiency	5	2	10
Project Delivery	2	0	0
Expected Useful Life			
Expected Useful Life	5	3	15
Availability of Funding			
Availability of Funding	5	0	0
Total Comparative Project Score			49

Project Drivers and Operating Impacts

Is project currently part of the CIP?	YES
Is this project due to regulatory compliance?	NO
Is this project due to wastewater treatment capacity issues?	NO
Is this project due to other operational issues?	YES
Is this a repair or replacement project?	YES
Is this a new infrastructure project?	NO

Annual Estimated Operating Costs	**Amount**
Personnel	$ -
Maintenance	$ -
Expenses	$ -
Total Projected Annual Cost	$0

Project Cost Summary		**Amount**
Project Cost assumes:		
$50K used as minimum for CIP evaluation	Planning	$ 50,000
	Design	
	Bidding	
	Construction Admin	
	Resident Eng.	
	Construction	
	Contingency	
	Total Project Costs	$ 50,000

REVISION DATE: 10/16/2018

Funding Sources

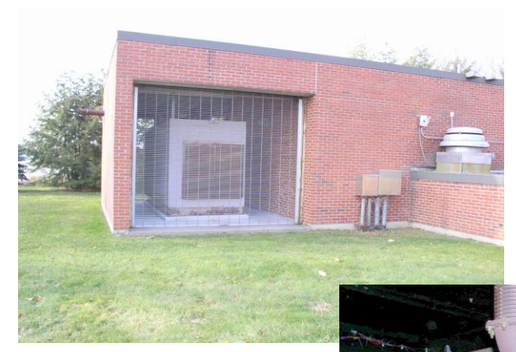
Source	**Amount**	**%**
Member Assessments		
Loan (__ yr @ ____ %)		0%
Bond (__ yr @ ____%)		0%
WRBP Replacement Fund		0%
WRBP O&M Budget	$ 50,000	100%
Other Funding Sources		
Grants		0%
Insurance/FEMA		0%
Rebates		0%
Total	$ 50,000	

Projected Funding Needs

Fiscal Year	**Amount**	**Comments**
FY 19 Request		in FY19 dollars
FY 20 Request		in FY19 dollars
FY 21 Request	$50,000	in FY19 dollars
FY 22 Request		in FY19 dollars
FY 23 Request		in FY19 dollars
FY 24 Request		in FY19 dollars
FY 25 Request		in FY19 dollars
FY 26 Request		in FY19 dollars
FY 27 Request		in FY19 dollars
FY 28 Request		in FY19 dollars
Total estimated 10-year costs	$ 50,000	

SUBMITTED BY: **CIP Subcommittee to Advisory Board**

Picture(s)



Generator Building

Winnisquam Generator

WRBP Capital Improvements Project Worksheet

Project Name: Winnisquam Pump Station Compound Rehabilitation
Original Replacement Date:
Revised Replacement Date:
Location: Winnisquam Pump Station, Laconia

Importance of Project:						
	Mandatory		High		Low	X
	Committed		Medium		On the Radar	

Project or Equipment Description: Re-routing subsurface conveyance structures (sewers and electrical as necessary) to better serve the existing pump station. Access to some of these areas is via entry through deteriorating former Laconia treatment plant buildings and a tunnel. A preliminary plan was described in the Master Plan of Improvements for the Laconia Compound prepared in 2001 by CDM and a preliminary design prepared in the mid 1990s by Rist-Frost. This will facilitate removal of deteriorated buildings, if deemed necessary, and re-routing the sewers on site.

Multi-phased Project: Yes/No Yes
Expected Useful Life: N/A for evaluation

Justification: This pump station, located immediately adjacent to Lake Winnisquam, handles approximately 60% of the WRBP wastewater flows from the collection system. Failure of this pump station may quickly lead to sewer overflow into the environment, adversely impacting the water quality of the Lake.

Impact of Cancelled or Delayed Project: The risk of pump station failure increases with the age of installed equipment. Pump station failure, especially for this high volume station located next to the Lake, could lead to discharge to the environment, impact to the water quality of Lake Winnisquam, and impact to the economic welfare of the area due to the proximity to the public boat ramp and the recreational uses of the Lake.

Project Score

Criteria	Weighting	Priority (3-0)	Score
Mandatory			
NPDES Compliance	12	0	0
Health & Safety	12	0	0
Environmental	12	0	0
Maintenance			
Maintain, Repair, Replace	7	2	14
O&M Cost & Efficiency			
O&M Cost	10	1	10
Efficiency	5	2	10
Project Delivery	2	0	0
Expected Useful Life			
Expected Useful Life	5	3	15
Availability of Funding			
Availability of Funding	5	0	0
Total Comparative Project Score			49

Project Drivers and Operating Impacts	
Is project currently part of the CIP?	YES
Is this project due to regulatory compliance?	NO
Is this project due to wastewater treatment capacity issues?	NO
Is this project due to other operational issues?	YES
Is this a repair or replacement project?	YES
Is this a new infrastructure project?	NO

Annual Estimated Operating Costs	**Amount**
Personnel	$ -
Maintenance	$ -
Expenses	$ -
Total Projected Annual Cost	$0

Project Cost Summary		**Amount**
Project Cost assumes:		
$50K used as minimum for CIP evaluation	Planning	$ 50,000
	Design	
	Bidding	
	Construction Admin	
	Resident Eng.	
	Construction	
	Contingency	
	Total Project Costs	$ 50,000

REVISION DATE: 10/4/2018

Funding Sources

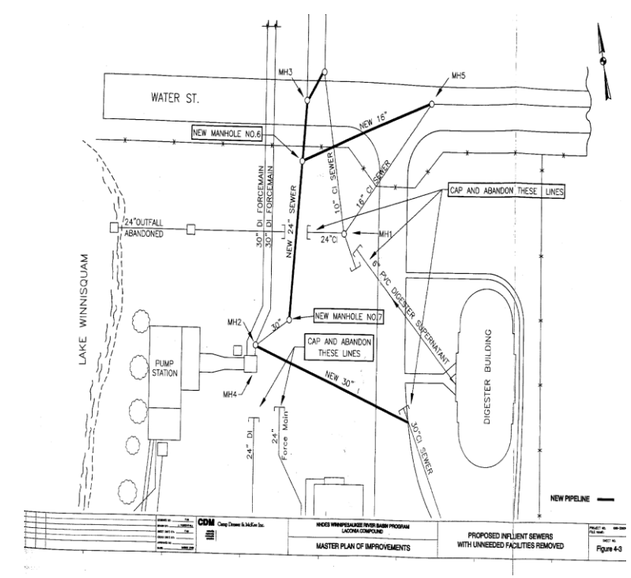
Source	**Amount**	**%**
Member Assessments		
Loan (__ yr @ ____ %)		0%
Bond (__ yr @ ____%)		0%
WRBP Replacement Fund	$ 50,000	100%
WRBP O&M Budget		0%
Other Funding Sources		
Grants		0%
Insurance/FEMA		0%
Rebates		0%
Total	$ 50,000	

Projected Funding Needs

Fiscal Year	**Amount**	**Comments**
FY 19 Request		in FY19 dollars
FY 20 Request		in FY19 dollars
FY 21 Request	$50,000.00	in FY19 dollars
FY 22 Request		in FY19 dollars
FY 23 Request		in FY19 dollars
FY 24 Request		in FY19 dollars
FY 25 Request		in FY19 dollars
FY 26 Request		in FY19 dollars
FY 27 Request		in FY19 dollars
FY 28 Request		in FY19 dollars
Total estimated 10-year costs	$ 50,000	

SUBMITTED BY: CIP Subcommittee to Advisory Board

Picture(s)



WRBP Capital Improvements Program Criteria Prioritization

Criteria

Prioritization	3	2	1	0	Weighting	Policy Statement
Mandatory						Policy Statement: The WRBP shall meet all regulatory requirements as specified in the NPDES Permit and will protect the health and safety of operations personnel and the public. The WRBP will seek to protect the environment and enhance the economy of the region.
Mandatory - NPDES Compliance	Project needed to alleviate existing compliance issues.	Project needed to alleviate potential compliance issues.	Project would promote or maintain compliance.	No compliance impact associated with project.	12	
Mandatory - Health & Safety	Project needed to alleviate existing health or safety hazard.	Project needed to alleviate potential health or safety hazard.	Project would promote or maintain health/safety.	No health or safety impact associated with project.	12	
Mandatory - Environmental	Project needed to alleviate existing environmental hazard.	Project needed to alleviate potential environmental hazard.	Project will improve environment quality of the Basin.	No direct environmental impact associated with project.	12	
Maintenance						Policy Statement: The WRBP will maintain all its assets at a level adequate to protect the WRBP's capital investment, maintain the desired level service and minimize future maintenance and replacement costs.
Maintain, Repair, Replace	Project is critical to save structural integrity of existing facility, repair significant structural deterioration, or replace obsolete equipment.	Project will repair/replace systems important to facility operation.	Project will improve facility appearance or deter future expenditure.	No existing facility involved.	7	
O&M Cost & Efficiency						Policy Statement: The WRBP will prioritize those projects with the highest potential for reducing operation and maintenance costs and that will improve the operational efficiency and effectiveness of facilities and operations staff.
O&M Costs	Project will result in significant (> 8%) decrease in O&M costs of unit operation.	Project will have minimal (1-8%) reduction of O&M costs of unit operation.	Project will have no effect on O&M costs and/or personnel additions.	Project will require increased O&M costs and/or personnel additions.	10	
Efficiency	Alternative technology/equipment will reduce energy/water consumed and/or < 5 years payback period.	Project will require no increase in energy/water consumption and/or 5-10 years payback period.	Alternative technology/equipment will require minimal increase in energy/water consumption and/or 10-20 year payback period.	Project will require substantial increases in energy/water consumption and/or payback period > 20 years or longer than anticipated equipment life.	5	
Project Delivery	Project requires completion before implementation of related project.	Project implementation will minimize program construction costs and disruption to operations.	Project may effectively be completed during implementation of related project.	Project has no prerequisites.	2	
Expected Useful Life						Policy Statement: The WRBP will prioritize those projects with the greatest long-term investment potential.
Expected Useful Life	Meets the needs of the WRBP for the next 30 years or more.	Meets the needs of the WRBP for the next 15-29 years.	Meets needs of the WRBP for next 5-14 years.	Meets needs of the WRBP for less than 5 years.	5	
Availability of Funding						Policy Statement: The WRBP will determine the least costly method to fund all projects and will seek outside (state/federal) funding to offset capital expenditures to the WRBP communities.
Outside Funding Availability	Project will receive grant funding >/= 20% of total project cost	Project will receive grant funding < 20% of total project cost.	Project will receive low (below commercial rate) interest rate loan applicable to entire project cost.	No funding arrangements currently exist.	5	

REVISION DATE: **3/10/2011 - Approved by CIP Subcommittee**

WRBP Capital Improvements Project Worksheet

Project Name:
Original Replacement Date:
Revised Replacement Date:
Location:

Importance of Project:	Mandatory		High		Low	
	Committed		Medium		On the Radar	

Project or Equipment Description:

Multi-phased Project: Yes/No

Expected Useful Life:

Justification:

Impact of Cancelled or Delayed Project:

Project Score

Criteria	Weighting	Priority (3-0)	Score
Mandatory			
NPDES Compliance	12		0
Health & Safety	12		0
Environmental	12		0
Maintenance			
Maintain, Repair, Replace	7		0
O&M Cost & Efficiency			
O&M Cost	10		0
Efficiency	5		0
Project Delivery	2		0
Expected Useful Life			
Expected Useful Life	5		0
Availability of Funding			
Availability of Funding	5		0
Total Comparative Project Score			0

Project Drivers and Operating Impacts

Is project currently part of the CIP?
Is this project due to regulatory compliance?
Is this project due to wastewater treatment capacity issues?
Is this project due to other operational issues?
Is this a repair or replacement project?
Is this a new infrastructure project?

Annual Estimated Operating Costs	**Amount**
Personnel	
Maintenance	
Expenses	
Total Projected Annual Cost	$0

Project Cost Summary	**Amount**
Project Cost assumes:	
Planning	
Design	
Bidding	
Construction Admin	
Resident Eng.	
Construction	
Contingency	
Total Project Costs	$ -

REVISION DATE: **12/2/2011 (approved form format)**

Funding Sources

Source	**Amount**	**%**
Member Assessments		
Loan (__ yr @ ____ %)		
Bond (__ yr @ ____%)		
WRBP Replacement Fund		
WRBP O&M Budget		
Other Funding Sources		
Grants		
Insurance/FEMA		
Rebates		
Total	$ -	

Projected Funding Needs

Fiscal Year	**Amount**	**Comments**
FY 12 Request		in FY12 dollars
FY 13 Request		in FY12 dollars
FY 14 Request		in FY12 dollars
FY 15 Request		in FY12 dollars
FY 16 Request		in FY12 dollars
FY 17 Request		in FY12 dollars
FY 18 Request		in FY12 dollars
FY 19 Request		in FY12 dollars
FY 20 Request		in FY12 dollars
FY 21 Request		in FY12 dollars
Total estimated 10-year costs	$0.00	

SUBMITTED BY:

Picture(s)

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WRBP ESTIMATED DEBT SERVICE SCHEDULE FY2019-FY2028

Project Name	Years Remaining	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
Bond N196	1	$12.97									
SRF Loan-203-03	11	$8,078.37	$7,864.80	$7,651.22	$7,437.64	$7,224.06	$7,010.48	$6,796.91	$6,583.33	$6,369.75	$6,156.17
Bond N204	2	$278.50	$278.41								
SRF Loan-203-06	1	$2,123.32									
SRF Loan-203-07	18	$6,980.35	$6,876.16	$6,771.98	$6,667.80	$6,563.61	$6,459.43	$6,355.24	$6,251.06	$6,146.87	$6,042.69
SRF Loan-203-08	18	$538.60	$530.67	$522.75	$514.83	$506.91	$498.99	$491.07	$483.15	$475.23	$467.31
SRF Loan-203-09	3	$3,116.72	$3,086.75	$3,056.79							
BAY DISTRICT		**$21,128.83**	**$18,636.79**	**$18,002.74**	**$14,620.27**	**$14,294.58**	**$13,968.90**	**$13,643.22**	**$13,317.54**	**$12,991.85**	**$12,666.17**
Bond N196	1	$31.87									
SRF Loan-203-03	11	$19,859.33	$19,334.29	$18,809.24	$18,284.20	$17,759.15	$17,234.11	$16,709.06	$16,184.02	$15,658.97	$15,133.92
Bond N204	2	$684.66	$684.43								
SRF Loan-203-06	1	$5,219.83									
SRF Loan-203-07	18	$17,160.02	$16,903.90	$16,647.78	$16,391.66	$16,135.54	$15,879.42	$15,623.30	$15,367.19	$15,111.07	$14,854.95
SRF Loan-203-08	18	$1,324.05	$1,304.58	$1,285.10	$1,265.63	$1,246.16	$1,226.69	$1,207.22	$1,187.75	$1,168.28	$1,148.81
SRF Loan-203-09	3	$7,661.93	$7,588.27	$7,514.60							
BELMONT		**$51,941.69**	**$45,815.47**	**$44,256.72**	**$35,941.49**	**$35,140.85**	**$34,340.22**	**$33,539.58**	**$32,738.96**	**$31,938.32**	**$31,137.68**
Bond N196	1	$138.84									
SRF Loan-203-03	11	$86,505.90	$84,218.84	$81,931.78	$79,644.71	$77,357.65	$75,070.59	$72,783.53	$70,496.47	$68,209.41	$65,922.34
Bond N204	2	$2,982.32	$2,981.34								
SRF Loan-203-06	1	$22,737.24									
SRF Loan-203-07	18	$74,747.89	$73,632.26	$72,516.61	$71,400.97	$70,285.33	$69,169.69	$68,054.05	$66,938.41	$65,822.77	$64,707.13
SRF Loan-203-08	18	$5,767.46	$5,682.64	$5,597.83	$5,513.01	$5,428.20	$5,343.38	$5,258.57	$5,173.75	$5,088.93	$5,004.12
SRF Loan-203-09	3	$33,374.86	$33,053.98	$32,733.09							
FRANKLIN		**$226,254.51**	**$199,569.06**	**$192,779.31**	**$156,558.69**	**$153,071.18**	**$149,583.66**	**$146,096.15**	**$142,608.63**	**$139,121.11**	**$135,633.59**
Bond N196	1	$66.99									
SRF Loan-203-03	11	$41,738.26	$40,634.77	$39,531.29	$38,427.80	$37,324.31	$36,220.83	$35,117.34	$34,013.86	$32,910.37	$31,806.89
Bond N204	2	$1,438.94	$1,438.47								
SRF Loan-203-06	1	$10,970.50									
SRF Loan-203-07	18	$36,065.13	$35,526.85	$34,988.56	$34,450.28	$33,911.99	$33,373.70	$32,835.42	$32,297.13	$31,758.85	$31,220.56
SRF Loan-203-08	18	$2,782.74	$2,741.82	$2,700.90	$2,659.97	$2,619.05	$2,578.13	$2,537.21	$2,496.28	$2,455.36	$2,414.44
SRF Loan-203-09	3	$16,103.05	$15,948.22	$15,793.40							
GILFORD		**$109,165.61**	**$96,290.13**	**$93,014.15**	**$75,538.05**	**$73,855.35**	**$72,172.66**	**$70,489.97**	**$68,807.27**	**$67,124.58**	**$65,441.89**
Bond N196	1	$252.83									
SRF Loan-203-03	11	$157,528.25	$153,363.48	$149,198.72	$145,033.95	$140,869.19	$136,704.42	$132,539.66	$128,374.89	$124,210.12	$120,045.36
Bond N204	2	$5,430.84	$5,429.05								
SRF Loan-203-06	1	$41,404.78									
SRF Loan-203-07	18	$136,116.79	$134,085.20	$132,053.60	$130,022.01	$127,990.41	$125,958.82	$123,927.22	$121,895.63	$119,864.04	$117,832.44
SRF Loan-203-08	18	$10,502.61	$10,348.16	$10,193.71	$10,039.26	$9,884.81	$9,730.36	$9,575.91	$9,421.46	$9,267.01	$9,112.56
SRF Loan-203-09	3	$60,776.01	$60,191.69	$59,607.35							
LACONIA		**$412,012.11**	**$363,417.58**	**$351,053.38**	**$285,095.22**	**$278,744.41**	**$272,393.60**	**$266,042.79**	**$259,691.98**	**$253,341.17**	**$246,990.36**
Bond N196	1	$42.14									
SRF Loan-203-03	11	$26,254.71	$25,560.58	$24,866.45	$24,172.33	$23,478.20	$22,784.07	$22,089.94	$21,395.82	$20,701.69	$20,007.56
Bond N204	2	$905.14	$904.84								
SRF Loan-203-06	1	$6,900.80									
SRF Loan-203-07	18	$22,686.13	$22,347.53	$22,008.93	$21,670.34	$21,331.74	$20,993.14	$20,654.54	$20,315.94	$19,977.34	$19,638.74
SRF Loan-203-08	18	$1,750.43	$1,724.69	$1,698.95	$1,673.21	$1,647.47	$1,621.73	$1,595.98	$1,570.24	$1,544.50	$1,518.76
SRF Loan-203-09	3	$10,129.34	$10,031.95	$9,934.56							

WRBP ESTIMATED DEBT SERVICE SCHEDULE FY2019-FY2028

Project Name	Years Remaining	FY19	FY20	FY21	FY22	FY23	FY24	FY25	FY26	FY27	FY28
Bond N196	1	$26.47									
SRF Loan-203-03	11	$16,493.34	$16,057.29	$15,621.24	$15,185.18	$14,749.13	$14,313.07	$13,877.02	$13,440.96	$13,004.91	$12,568.85
Bond N204	2	$568.61	$568.43								
SRF Loan-203-06	1	$4,335.12									
SRF Loan-203-07	18	$14,251.55	$14,038.84	$13,826.13	$13,613.42	$13,400.71	$13,188.00	$12,975.29	$12,762.58	$12,549.87	$12,337.16
SRF Loan-203-08	18	$1,099.63	$1,083.46	$1,067.29	$1,051.12	$1,034.95	$1,018.78	$1,002.61	$986.43	$970.26	$954.09
SRF Loan-203-09	3	$6,363.30	$6,302.12	$6,240.94							
Bond N196	1	$9.18									
SRF Loan-203-03	11	$5,722.18	$5,570.90	$5,419.61	$5,268.33	$5,117.04	$4,965.76	$4,814.47	$4,663.19	$4,511.91	$4,360.62
Bond N204	2	$197.27	$197.21								
SRF Loan-203-06	1	$1,504.02									
SRF Loan-203-07	18	$4,944.41	$4,870.62	$4,796.82	$4,723.02	$4,649.22	$4,575.43	$4,501.63	$4,427.83	$4,354.04	$4,280.24
SRF Loan-203-08	18	$381.51	$375.89	$370.28	$364.67	$359.06	$353.45	$347.84	$342.23	$336.62	$331.01
SRF Loan-203-09	3	$2,207.68	$2,186.45	$2,165.22							
Bond N196	1	$29.17									
SRF Loan-203-03	11	$18,176.34	$17,695.79	$17,215.24	$16,734.69	$16,254.14	$15,773.59	$15,293.04	$14,812.49	$14,331.94	$13,851.39
Bond N204	2	$626.64	$626.43								
SRF Loan-203-06	1	$4,777.47									
SRF Loan-203-07	18	$15,705.78	$15,471.37	$15,236.95	$15,002.54	$14,768.12	$14,533.71	$14,299.29	$14,064.88	$13,830.47	$13,596.05
SRF Loan-203-08	18	$1,211.84	$1,194.02	$1,176.20	$1,158.38	$1,140.55	$1,122.73	$1,104.91	$1,087.09	$1,069.27	$1,051.45
SRF Loan-203-09	3	$7,012.62	$6,945.19	$6,877.77							
Bond N196	1	$12.97									
SRF Loan-203-03	11	$8,078.37	$7,864.80	$7,651.22	$7,437.64	$7,224.06	$7,010.48	$6,796.91	$6,583.33	$6,369.75	$6,156.17
Bond N204	2	$278.50	$278.41								
SRF Loan-203-06	1	$2,123.32									
SRF Loan-203-07	18	$6,980.35	$6,876.16	$6,771.98	$6,667.80	$6,563.61	$6,459.43	$6,355.24	$6,251.06	$6,146.87	$6,042.69
SRF Loan-203-08	18	$538.60	$530.67	$522.75	$514.83	$506.91	$498.99	$491.07	$483.15	$475.23	$467.31
SRF Loan-203-09	3	$3,116.72	$3,086.75	$3,056.79							
DAS		**$21,128.83**	**$18,636.79**	**$18,002.74**	**$14,620.27**	**$14,294.58**	**$13,968.90**	**$13,643.22**	**$13,317.54**	**$12,991.85**	**$12,666.17**
TOTAL		**$1,015,944.40**	**$896,119.42**	**$865,631.62**	**$702,991.22**	**$687,331.28**	**$671,671.40**	**$656,011.49**	**$640,351.60**	**$624,691.70**	**$609,031.78**

TOTALS PER LOAN

Bond N196	1	$623.43									
SRF Loan-203-03	11	$388,435.05	$378,165.54	$367,896.01	$357,626.47	$347,356.93	$337,087.40	$326,817.88	$316,548.36	$306,278.82	$296,009.27
Bond N204	2	$13,391.42	$13,387.02								
SRF Loan-203-06	1	$102,096.40									
SRF Loan-203-07	18	$335,638.40	$330,628.89	$325,619.34	$320,609.84	$315,600.28	$310,590.77	$305,581.22	$300,571.71	$295,562.19	$290,552.65
SRF Loan-203-08	18	$25,897.47	$25,516.60	$25,135.76	$24,754.91	$24,374.07	$23,993.23	$23,612.39	$23,231.53	$22,850.69	$22,469.86
SRF Loan-203-09	3	$149,862.23	$148,421.37	$146,980.51							
TOTAL		**$1,015,944.40**	**$896,119.42**	**$865,631.62**	**$702,991.22**	**$687,331.28**	**$671,671.40**	**$656,011.49**	**$640,351.60**	**$624,691.70**	**$609,031.78**