

Pennichuck Water Works, Inc.
DW 21-023
 2021 QCPAC - Qualified Capital Project Adjustment Charge
 Responses to DOE Data Requests –Set 1

Date Request Received: 7/7/21
 Request No. DOE 1-1

Date of Response: 7/20/21
 Witness: Larry D. Goodhue

REQUEST:

Re: Response to Staff Tech 1-1 and Updated Exhibit DLW-1, Page 3 (2020 CapEx): The Company's response to Staff Tech 1-1 indicates that it sold bonds on April 2, 2021 totaling \$5,190,000 in two series (Series A [\$5,065,000] and Series B [\$125,000]) at an average coupon rate of 4.056692%. However, Updated Exhibit DLW-1, Page 3, Line 151 indicates that the Company's 2020 CapEx funded with Bonds is \$5,605,797, which is \$415,797 greater than the amount of bonds it stated was sold on April 2. Please provide a detailed explanation as to the financing source (if any) for this \$415,797 differential.

RESPONSE:

The difference cited is the result of the fact that the bonds issued on April 2, 2021, were issued at a "premium" into the markets. Investors and the market will determine the appetite to purchase bonds at either: par, a premium, or a discount. This is all based upon individual investor portfolio requirements, and/or market supply vs demand objectives. When issuing bonds, PWW's overall and sole objective is to provide for the cash flow needed to payoff borrowed FALOC funds for eligible capital projects funded during the preceding year, as qualified and used and useful by year-end, under the QCPAC program. As such, the par amount of the issued bonds will almost always differ from the cash brought in from an issuance, as bonds are almost always issued at premium or discount. In the case of this April 2021 issuance, only \$5,190,000 of bonds (at par value) needed to be issued, in order to bring in the \$5.6 million in cash needed for these projects. The difference is recorded on the Company's books as Bond Premium, which is amortized over the term of the issued bonds (as either a "bond ladder" of term bonds, or as longer-term bonds, with annual sinking fund payments). The amortization of the premium is included as a factor in the calculated average coupon rate cited above.

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Date Request Received: 7/7/21
 Request No. DOE 1-2

Date of Response: 7/20/21
 Witness: Larry D. Goodhue

REQUEST:

Re: Response to Staff Tech 1-15 and Updated Exhibit DLW-1, Page 3 (2020 CapEx): Based on the Company's response to Staff Tech 1-15, it appears that a total of \$733,100 in fit up costs were expended in 2020 related to the Company's move of its corporate office from Merrimack to Nashua. Further, it appears that these fit up costs will result in an increase of \$19,074 in annual property tax expense.

- a) Please explain whether these amounts represent, i) the full 2020 fit up costs incurred by both PWW and its affiliates, or ii) PWW's allocated share of the 2020 fit up costs.
- b) If the Company's response to (a) is (i), please provide a detailed explanation as to how PWW intends to ensure that its ratepayers are not paying a greater amount than necessary relative to these costs through the QCPAC until such time that new permanent rates are approved in its next general rate proceeding.
- c) If the Company's response to (a) is (ii), please provide a detailed explanation of the allocation methodology utilized to apportion these costs amongst PWW and its affiliates. Please provide the detailed computations.

RESPONSE:

- a) This \$733,100 amount represents the full incurred for the project, not just PWW's share. PWW funds paid for the entire cost of the fit-up, as the tenant in the building (as it was in the previous headquarters facility). The recovery of a portion of those funds is recovered through the Return on Assets portion of the Management Fee Allocation, over the useful life of these costs. This is consistent with the recovery of fit-up costs for the corporate headquarters for the Company, as included in the approved and consistently applied Management Fee Allocation.
- b) This amount was fully funded out of DSRR 0.1 funds earned in 2020 from the Company's already approved permanent rates from its last completed general rate proceeding. As such, these costs will not create an amount for ratepayers that is included in the QCPAC surcharge at this time or going forward or be an element of the underlying factors (OERR/MOEF, DSRR and CBFRR) used to justify rates requested in the next general rate proceeding.

- c) As stated in response (a) above, the allocation of these fit-up costs are included in the Company's Return on Assets (ROA) portion of the Management Fee Allocation between the operating companies of the Corporate Group, as of 1/1/2021, as has been done in the past for any fit-up costs related to the previously occupied leased headquarters facility. This amount is subject to recovery from the companies as an amount subject to the rate of return calculation in that portion of the Management Fee Allocation ("MFA"), currently at a rate of return of 4.51%, and is then allocated to the companies in accordance with the other factors in the model for Tier 1 costs. The ROA calculation is based upon the Net Book Value of the underlying assets, as they are depreciated over their useful lives. Included in the full cost of fit-up are certain assets that have useful lives between 7-15 years, and as such the ROA on these assets included in the MFA will decrease each year as the assets are depreciated to maturity. Under the current, ROA for the full initial value of the fit-up costs, the amount shares between the companies is $(\$733,100 \times 4.51\% = \$33,062.81)$. The manner in which all Tier 1 costs are allocated varies from month to month and are trued up on a year-to-date basis for each month leading up to the final year-end calculated values. The actual allocation dollar amounts vary each month (and each year), as they are allocated in accordance with the approved model, based upon actual: (1) pro-rata revenues, (2) total assets, (3) customers, (4) employees, and (5) square footage dedicated specifically vs shared, in the headquarters facility. As of current metrics through the month of May, the ROA portion of the MFA is 75.26% PWW, 20.28% PEU, 1.41% PAC and 3.05% to Pennichuck Water Service Company. It is important to note, however, that: (1) this is consistent with the approved methodology for the sharing of recovery on all assets owned by PWW, for which the benefit is shared by all other companies in the consolidated group, (2) the ROA Assets portion of the MFA is only one of several allocation methodologies/tiers within the MFA, as approved and consistently applied for costs borne, and (3) the direct cost of the leased facility (i.e. monthly lease payments) are shared pursuant to the MFA in the portion of the model that allocated operating expenses borne for which all of the companies directly or indirectly benefit, including the depreciation of these fit-up cost assets, as well as the impact of any property taxes on these personal property assets.

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Date Request Received: 7/7/21
 Request No. DOE 1-3

Date of Response: 7/20/21
 Witness: Donald L. Ware

REQUEST:

Re: Updated Exhibit DLW-1, Page 3 (2020 CapEx): For each of the following 2020 capital improvements, please provide a detailed explanation as to why they are subject to a property tax assessment:

<u>Description</u>	<u>Cost</u>	<u>Tax</u>
a) Ln 27: Replacement Equipment /Excavator Trailer	\$17,917	\$511
b) Ln 28: Buyout Lease of HP T2530PS Large Format Printer	\$4,995	\$142
c) Ln 41: Asset Management – GIS QA/QC ahead of NEW CMMS	\$56,448	\$1,610
d) Ln 50: Replace Engineering Pickup	\$ 23,470	\$669
e) Ln 51: Replace Engineering SUV # 34	\$24,432	\$697
f) Ln 128: CMMS replacement project*	\$433,263	\$11,754

(*Per Boisvert Testimony, Page 16 (Pg. 56), Lines 2-4, it appears this includes both software and hardware.)

RESPONSE:

a) Acct 341.00 - Transportation equipment is not taxable. This line has been changed in the attached revised Exhibit DLW-1, Page 3 to reflect that the Replacement Equipment/Excavator Trailer is not subject to property taxes.

b) Acct 340.10 - Office Equipment is not taxable. This line has been changed in the attached revised Exhibit DLW-1, Page 3 to reflect that the Buyout Lease of HP T2530PS Large Format Printer is not subject to property taxes.

c) Acct 347.11 - Computer Equipment-Hardware/Software is a taxable account based on RSA 83F, the Statewide Utility Tax. This account is reported as taxable based on Form PA-83. The Asset Management – GIS QA/QC ahead of the NEW CMMS project is booked to Acct 347.11, and therefore is reportable as taxable property.

d) Acct 341.00 - Transportation equipment is not taxable. This line has been changed in the attached revised Exhibit DLW-1, Page 3 to reflect that the Replace Engineering Pickup is not subject to property taxes.

e) Acct 341.00 - Transportation equipment is not taxable. This line has been changed in the attached revised Exhibit DLW-1, Page 3 to reflect that the Replace Engineering SUV #34 is not subject to property taxes.

f) Acct 347.11 - Computer Equipment-Hardware/Software is a taxable account based on RSA 83F, the Statewide Utility Tax. This account is reported as taxable based on Form PA-83. The CMMS replacement project is booked to Acct 347.11, and therefore is reportable as taxable property.

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Date Request Received: 7/7/21
 Request No. DOE 1-4

Date of Response: 7/20/21
 Witness: Donald L. Ware

REQUEST:

Re: Updated Exhibit DLW-1, Page 3 (2020 CapEx), Line 74 – MSDC payment to MWW-\$166,347:

- a) Please provide further explanation with regard to the basis for this particular line item and its inclusion for recovery under the QCPAC mechanism.
- b) Please provide a detailed explanation with regard to how the transaction involving the payment of these MSDC charges was recorded on the books and records of the Company, and if there will be an annual amortization of these charges (and over what period of time).
- c) In Commission Order No. 26,076 (November 17, 2017) in Docket Nos. DW 17-119 and DW 17-120, the Commission approved a new method by which the Company (and PEU) would collect the MSDC from individual customers upon their connection to the system rather than from the entire customer base as a whole. In that order the Commission commented, “Applying the MSDC to customers as they connect a new service line to a system that purchases its supply from Manchester Water Works, eliminates an expense shared by all customers and thereby mitigates any claim that the fee is unjust or unreasonable when applied to customers who do not take supply from Manchester Water Works.” (See Page 4, Commission Analysis) Please explain how the Company’s proposed inclusion of the MSDC in the QCPAC in this circumstance comports with Commission Order No. 26,076.

RESPONSE:

a) Per PWW’s purchase water contract with Manchester Water Works (MWW), PWW must pay for used MSDC capacity which is based on the average highest two months of usage on a gallons per day (gpd) basis based on PWW’s total usage from its metered connections with MWW. Since 2020 was a drought year, there was record usage. Prior to 2020, PWW had purchased 569,005 gpd of MSDC capacity. In 2020, PWW used 616,346 gpd in MSDC capacity resulting in PWW needing to purchase an additional 47,341 gpd of capacity at \$3.79 per gpd or \$179,421.94. Since the approval of PWW’s tariff which allowed it to collect MSDC from individual customers, PWW collected \$13,076 from new customers in accordance with Commission Order No 26,076 leaving a residual MSDC fee to be collected of \$166,346. The

MSDC is a source of supply cost and the Company included the cost of this fee as a regulatory asset and the cost of that asset is amortized over 20 years, the terms of the PWW/MWW purchased water agreement. Please see the Attachment Staff DR1-4 for the calculation of this fee as provided by MWW and verified by PWW.

b) The \$166,347 is recorded as a regulatory asset and it will be amortized over 20 years. Since the cash that was used to pay this asset was paid for by the Bonds sold on April 2, 2021, and the principal and interest associated with this Source of Supply Expense is proposed to be collected via the QCPAC, the amortization expense associated with this regulatory asset will be pro forma out of amortization expense in future rate cases and will not be collected as part of the MOERR.

c) The fees collected by PWW in accordance with Commission Order No. 26,076 were collected from new customers in the amount of \$13,076, and reduced PWW's MSDC payment to MWW from \$179,421.94 to \$166,346. The additional MSDC usage above and beyond that used and paid for by new customers was created by record usage by existing PWW customers during the summer months of 2020 that was a result of record outside usage in response to the drought in 2020. Since the \$166,346 was driven by existing customers, this expense is appropriately shared by all PWW's rate payers as it has been in past rate cases.

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Date Request Received: 7/7/21
 Request No. DOE 1-5

Date of Response: 7/20/21
 Witness: Donald L. Ware

REQUEST:

Re: Updated Exhibit DLW-1, Page 3 (2020 CapEx), Line 102; Boisvert testimony Page 8 (Page 48), Line 23 to Page 9 (Page 49), Line 4 and Page 22 (Page 62), Lines 7-14:

- a) The cost of media replacement in filters 5 & 6 increased from an estimated \$450,000 in the 11/30/2020 update to a final 12/31/2020 price of \$495,331. Please indicate the reason for the increase.
- b) How does the company determine when the carbon media is exhausted or needs replacement?
- c) Is the media replacement put out to bid? Please explain.
- d) Is the removed media landfilled? Regenerated? Please explain.
- e) What factors or limits will determine the amount of each source (Merrimack River, Pennichuck Brook) the company will be able to use going forward?
- f) Other than carbon media impacts, are there other differences in water chemistry or treatment costs associated with using one source v. the other? Please explain.

RESPONSE:

- a) The 11/30/2020 estimate should have been updated. The \$450,000 estimate was based on the most recent filter media changeout. When the bids to replace the media were received the low bid was \$495,331
- b) Samples are gathered on a monthly basis and sent to an independent laboratory to determine certain parameters that indicate the removal capacity of the media. Comparing the results to industry standards and original specifications determines the time to replace media. Since we are also using the media for PFOA removal, samples for this contaminant are analyzed on a monthly basis to determine removal effectiveness.
- c) Yes. The media replacement is put out to bid. There are two US suppliers of carbon, Calgon Corporation and Cabot/Norit. Calgon Corporation was the low bidder on the carbon replacement project.
- d) Disposal of the removed media is the responsibility of the entity providing the replacement carbon and included in the cost of the carbon replacement project. PWW is not aware of whether the media removed from Filter's 5 & 6 was disposed or regenerated by Calgon Corporation. If Calgon regenerates the carbon it is for reuse only for non-potable water treatment applications.

- e) Due to the New Hampshire Department of Environmental Services (NHDES) PFAS regulations, in particular the standard for Perfluorooctanoic Acid (PFOA) of 12 parts per trillion (ppt), the Company will use the Merrimack River as its primary source of water because the level of PFOA in the Merrimack River is substantially lower than that found in the Pennichuck Brook Water Supply. The level of PFOA in the Merrimack River supply varies from non-detect to 5 ppt. The level of PFOA in the Pennichuck Brook system varies between 11 ppt and 40 ppt. The use of the Merrimack River instead of Pennichuck Brook water will extend the life of the carbon (for PFOA removal) by a factor of about 4 times. The Company will only use the Pennichuck Brook water as a source of supply in the future would be if: 1) there is a contamination event in the Merrimack River, 2) there are mechanical problems or maintenance work that is being performed at the Merrimack River Intake that would preclude the use of the Merrimack River as a source of supply, or 3) the PFOA levels in the Pennichuck Brook Supply dropped to levels similar to those of the Merrimack River Intake..
- f) The Merrimack River and Pennichuck Brook raw water supplies have very similar water qualities and the use of one supply versus the other does not increase or lessen the cost of treatment other than the cost of electricity. The Merrimack River supply requires electricity to deliver water from the Merrimack River to the Water Treatment Plant (WTP). The Pennichuck Brook supply flows by gravity into the WTP by gravity so no electricity is required. Additional electrical expenses associated with the use of the Merrimack River, as detailed in Mr. Boisvert's testimony, is offset several times by the cost savings created by less frequent Carbon changeouts required in the use of the Merrimack River Supply versus the use of the Pennichuck Brook, which are driven by the levels of PFOA in each supply.

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Date Request Received: 7/7/21
Request No. DOE 1-6

Date of Response: 7/20/21
Witness: John J. Boisvert

REQUEST:

Re: Updated Exhibit DLW-1, Page 4 (2021 CapEx), Line 35:

- a) The Kessler Farm Tank Replacement cost appears to have increased substantially, from \$3,328,000 in the DW 20-020 11/30/2020 update to \$4,000,000 currently. Please explain.
- b) Please provide a copy of the most recent tank inspection report.

RESPONSE:

- a) The budget for the project was adjusted based on the bids received. The bid values were higher than the original estimates for the project (prepared in 2019). During 2020 the cost of many building materials doubled or even tripled in price. There were significant increases in the price of steel, concrete, and lumber, the primary building materials for this project, that could not have been foreseen when the initial project estimate was completed in 2019.
- b) A copy of the October 17, 2014 report is attached to this response as Attachment DOE 1-6.

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Date Request Received: 7/7/21
Request No. DOE 1-7

Date of Response: 7/20/21
Witness: John J. Boisvert

REQUEST:

Re: Updated Exhibit DLW-1, Page 4 (2021 CapEx), Line 36: The cost of the Coburn Woods main replacement project appears to have increased from \$1,188,000 (as a 2022 project in DW 20-020) to \$1,855,000 in the current docket. Please explain.

RESPONSE:

The amount of \$1,188,000 was the budget for the work on this project that the Company originally planned to complete in 2020. That budget included the installation of the watermain and services but not the final paving restoration. A late start in 2020 did not allow for much to be completed as winter conditions forced a shutdown of the project until the Spring of 2021. Final paving and site restoration were planned for 2021 with the cost for that work being the difference between \$1,855,000 and \$1,188,000 (or \$667,000). The Company intends to complete the water main installation and most of the site restoration in 2021. However, the pace of construction has been slowed due to the contractor encountering unmapped and poorly located buried utilities (primarily telecom and electric). It is likely that a portion of the project will be carried over into 2022. The Company will not be able to confirm the scope of work that will be complete this year until the fourth quarter of 2021.

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Date Request Received: 7/7/21
Request No. DOE 1-8

Date of Response: 7/20/21
Witness: John J. Boisvert

REQUEST:

Re: Updated Exhibit DLW-1, Page 4 (2021 CapEx), Lines 40-41: Please comment on the nature and purpose of the proposed Sweet Hill and Twin Ridge interconnections.

RESPONSE:

These two community water systems (CWS) are located in Plaistow, NH. Both systems have suffered from a shortage of supply either due to the failure of a well or depleted water levels in the aquifer. These failures required the trucking of water into each system from time to time. In addition, the Twin Ridge system has suffered from poor water quality, including elevated hardness, manganese, and sodium levels that have been the primary concerns. The Southern NH Regional Water System will allow the Town of Plaistow to convert its water distribution system from a fire suppression system into a potable public water system. The converted Plaistow distribution system is near Twin Ridge and Sweet Hill to cost effectively provide an interconnection to serve as both a redundant and supplemental source of supply. The NHDES has approved loan funding for the projects through the NH State Revolving Fund. The Company is in the process of completing the final applications to NHDES and will be filing a petition with the NHDOE for approval for the Company to accept the SRF loan. The petition will be filed during the third quarter of 2021.

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Responses to DOE Data Requests –Set 1

Date Request Received: 7/7/21
Request No. DOE 1-9

Date of Response: 7/20/21
Witness: John J. Boisvert

REQUEST:

Please indicate the current status of the following 2021 projects:

- a) Kessler Farm tank replacement.
- b) Coburn Woods main replacements.
- c) Harris Dam improvements.
- d) Supply Pond spillway improvements.

RESPONSE:

- a) In construction. Used and useful date by December 2021
- b) In construction. Due to the pace of construction which has been slowed due the contractor encountering poorly located utilities (telecom and electric) as well as private sewers, the project is expected to carry over into 2022 even the though most of the work will be completed in 2021.
- c) Construction delayed due to environmental permitting and approvals by the NHDES Dam Bureau. Construction is expected to proceed in 2022.
- d) Construction delayed due to environmental permitting and approvals by the NHDES Dam Bureau. Construction is expected to proceed in 2022.

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Date Request Received: 7/7/21
 Request No. DOE 1-10

Date of Response: 7/20/21
 Witness: Donald L. Ware

REQUEST:

Re: Updated Exhibit DLW-1, Page 4 (2021 CapEx): The following proposed 2021 CapEx projects are indicated as not QCPAC eligible in ‘Column H’ of Updated Exhibit DLW-1, Page 4. However, the budgeted cost of these projects appear to be included in the anticipated bonding of 2021 CapEx to occur in 2022. Please explain.

<u>Description</u>	<u>Amount</u>
a) Ln 37: Merrimack River Watershed Council (Grant Match)	\$40,000
b) Ln 63: Vehicle Replacement	\$55,000
c) Ln 64: Vehicle Replacement	\$40,000
d) Ln 70: Infoview Licenses	\$65,000

RESPONSE:

Of the projects listed above in a) through d) only the Merrimack River Watershed Council (Grant Match) found on Line 44 on Exhibit DLW-1, Page 4 should have been labeled as not QCPAC eligible. All the costs associated with projects listed in b-d above were included in the anticipated bonding to fund 2021 Capex. The Merrimack River Watershed Council (Grant Match) should not be included in the anticipated 2021 Bond Total as the cash for this project is being provided from 0.1 DSRR funds. The attached Exhibit DLW-1 has been corrected to reflect the changes noted above.

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Date Request Received: 7/7/21
Request No. DOE 1-11
Jay Kerrigan

Date of Response: 7/20/21
Witness: Donald L. Ware,

REQUEST:

Re: Updated Exhibit DLW-1, Page 4 (2021 CapEx): It does not appear that the municipal/state property tax rates indicated in ‘Column O’ of Page 4 of Updated Exhibit DLW-1 are in agreement with the municipal/state property tax rates indicated in ‘Column O’ of Page 3 of Updated Exhibit DLW-1 (2020 CapEx). Please explain.

RESPONSE:

The tax rates in “Column O” on Page 4 have been changed to reflect those detailed in “Column O” on page 3 the attached revised Exhibit DLW-1. I have also adjusted the rates in “Column O” on pages 5 and 6 so that all the tax rates match.

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Date Request Received: 7/7/21
 Request No. DOE 1-12

Date of Response: 7/20/21
 Witness: Donald L. Ware

REQUEST:

Re: Updated Exhibit DLW-1, Page 4 (2021 CapEx): Please explain why the following two significant projects budgeted for 2021 are indicated as not taxable in ‘Column N’ of Page 4 of Updated Exhibit DLW-1:

<u>Description</u>	<u>Amount</u>
a) Ln 35: Kessler Farm Tank Replacement	\$4,000,000
b) Ln 36: Auburn Woods (all side streets)	\$1,855,000

RESPONSE:

Both projects noted above should have been listed as taxable. The attached revised Exhibit DLW-1 has been revised to reflect those projects that are taxable.

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Date Request Received: 7/7/21
 Request No. DOE 1-13

Date of Response: 7/20/21
 Witness: Donald L. Ware

REQUEST:

Re: Updated Exhibit DLW-1, Page 4 (2021 CapEx): For each of the following 2021 budgeted capital improvements, please provide a detailed explanation as to why they would be subject to a property tax assessment:

<u>Description</u>	<u>Cost</u>	<u>Tax</u>
a) Ln 21: Replacement Valve/vac trailer	\$ 65,000	\$1,731
b) Ln 22: Replacement Equipment Trailer	\$ 7,000	\$200
c) Ln 24: Valve Turner & Vac Truck	\$200,000	\$5,772
d) Ln 60: Purchase new lab equipment	\$20,000	\$533
e) Ln 69: CMMS replacement project (Estimate)	\$100,000	\$2,663
f) Ln 80: CMMS PLL Implementation	\$170,000	\$4,527

RESPONSE:

a) Acct 341.00 - Transportation equipment is not taxable. This line has been changed in the attached revised Exhibit DLW-1, Page 4 to reflect that the Replacement Valve/Vac Trailer is not subject to property taxes.

b) Acct 341.00 - Transportation equipment is not taxable. This line has been changed in the attached revised Exhibit DLW-1, Page 4 to reflect that the Replacement Equipment Trailer is not subject to property taxes.

c) Acct 341.00 - Transportation equipment is not taxable. This line has been changed in the attached revised Exhibit DLW-1, Page 4 to reflect that the Valve Turner & Vac Truck is not subject to property taxes.

d) Acct 344.00 - Laboratory equipment is not taxable. This line has been changed in the attached revised Exhibit DLW-1, Page 4 to reflect that Purchased new lab equipment is not subject to property taxes.

e) Acct 347.11 - Computer Equipment-Hardware/Software is a taxable account based on RSA 83F, the Statewide Utility Tax. This account is reported as taxable based on Form PA-83.

CMMS replacement project is booked to Acct 347.11, and therefore is reportable as taxable property.

f) Acct 347.11 - Computer Equipment-Hardware/Software is a taxable account based on RSA 83F, the Statewide Utility Tax. This account is reported as taxable based on Form PA-83. CMMS PLL Implementation project is booked to Acct 347.11, and therefore is reportable as taxable property.

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Date Request Received: 7/7/21
Request No. DOE 1-14

Date of Response: 7/20/21
Witness: John J. Boisvert

REQUEST:

Re: Boisvert testimony, Page 8 (Page 48), Lines 13-15: Please indicate the nature of the “emergency generator connection” for the third raw water pump.

RESPONSE:

The emergency generator connection is to provide a means to power one of the three 350 horsepower pumps at the Merrimack River Raw Water Pumping Station during an extended loss of power at the station. The emergency could be the loss/failure of the existing transformer feeding the station or the failure of the electric transmission lines leading to the station. The project will provide the ability to connect a generator to the station for planned maintenance to the electric lines or the existing transformer to keep the station in service. The major component of the work is the installation of a manual transfer switch and associated electrical equipment, wiring and conduits.

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Date Request Received: 7/7/21
 Request No. DOE 1-15

Date of Response: 7/20/21
 Witness: Donald L. Ware

REQUEST:

Re: Boisvert testimony, Page 8 (Page 48), Lines 17-23: Please provide the supporting calculation for the comparison of raw water pumping cost to carbon media change-outs.

RESPONSE:

The Company transitioned from using Pennichuck Brook to the Merrimack River as the primary source of for the Nashua Core water system. The transition was driven by the presence of the contaminant perfluorooctanoic (PFOA) above the drinking water standards set by the NHDES in the Pennichuck Brook. The level of PFOA in the Merrimack River is below the drinking water standard. Though the granular activated carbon (GAC) media in the filters at the treatment facility adsorbs (collects) PFOA such that filtered water has PFOA below drinking water standards if not below laboratory detection, the GAC does not perform this way indefinitely. The GAC essentially begins to fill up and cannot hold or collect additional PFOA, resulting in the breakthrough of PFOA leading to increased concentrations of PFOA in the treated water. Without replacement of the GAC, the concentrations will rise to the levels found in the raw water. If Pennichuck Brook was 100% of the source, the concentration would rise to the level which is consistently above the NH drinking water standard resulting in a water quality violation. The same is true when the Company uses the Merrimack River but, the concentrations found in the Merrimack River water is below the PFOA standards. So, even if breakthrough of PFOA were to occur, it would breakthrough at a concentration below the drinking water standard. Because the Company can only pump approximately 22 million gallons per day (mgd), and there are times when customer demand exceeds 22 mgd requiring a blend of Pennichuck Brook and Merrimack River raw water. That blend of water may or may not be below the drinking water standard depending of the flow from each source and the concentration from each source. The Company must maintain enough adsorptive capacity in the GAC media to ensure no matter what raw water source (or combination) is being used, that the filters will produce water well below the standards. GAC media replacement is the way compliance is ensured. Monitoring and tests allow staff to assess the current conditions of the GAC media such that media can be replaced at the correct times. Neither before the GAC is used up or too late when breakthrough could occur.

Prefaced on the paragraph above, there is not a defined rule of when the GAC media requires replacement. It is a function of flow (demand) and the concentration of PFOA being filtered. Both factors have their own influencing variables and thus are variable too. Based on sampling of Filters 1 and 2 over the past 2.5 years, the PFOA broke through the carbon at about two years treating a combination of Pennichuck Brook and Merrimack River Water with an average PFOA

concentration of about 11 ppt. Based on an average PFOA concentration of 18 ppt in the Pennichuck Brook Supply, it is expected that the carbon would last about 1.5 years before PFOA breakthrough if the Company used the Pennichuck Brook Supply exclusively. The average PFOA in the Merrimack River is well below the NHDES standard; therefore the breakthrough of PFOA would not drive the carbon replacement. The replacement of the carbon when using the Merrimack River source water will likely be driven by taste and odor. Since the Merrimack River has not been used exclusively until 2020, it is not known how long the carbon will last in treating taste and odor. Since the indicators of taste and odor are less prevalent in the Merrimack River than in Pennichuck Brook, it has been assumed that the carbon will last at least 7 years. As taste and odor is being removed over time, the PFOA in the Merrimack River water will also be adsorbed by the carbon. Based on an average of 4 ppt of PFOA in the Merrimack River Water, it is estimated that the carbon adsorption of PFOA will last about 4.5 times longer than that of Pennichuck Brook so the projected carbon life using the Merrimack River will be about 6.75 years.

Based on these facts, the Company estimates that the overall cost of treating (carbon plus electricity) the Merrimack River Water will be about 2.4 times less than treating the Pennichuck Brook water. The 1/5th reference in Mr. Boisvert's testimony was a comparison of carbon replacement costs vs. extra electricity and did not include the carbon replacement cost when using the Merrimack River. Please see Attachment DOE 1-13 for a detailed set of calculations supporting the numbers discussed above.

Pennichuck Water Works, Inc.
DW 21-023
2021 QCPAC - Qualified Capital Project Adjustment Charge
Responses to DOE Data Requests –Set 1

Date Request Received: 7/7/21
Request No. DOE 1-16

Date of Response: 7/20/21
Witness: John J. Boisvert

REQUEST:

Re: Boisvert testimony, Page 10 (Page 50), Lines 12-13:

- a) Please provide an updated figure for the total cost of mains replaced in 2020.
- b) Please indicate the total number of feet of mains replaced in 2020.

RESPONSE:

- a) The total cost was \$1,538,500
- b) 4,237 linear feet.

Pennichuck Water Works, Inc.
DW 21-023
2021 QCPAC - Qualified Capital Project Adjustment Charge
Responses to DOE Data Requests –Set 1

Date Request Received: 7/7/21
Request No. DOE 1-17

Date of Response: 7/20/21
Witness: John J. Boisvert

REQUEST:

Re: Boisvert testimony, Page 11 (Page 51), Lines 9-10 and Staff Tech 1-11: The three projects referenced in the response appear to be only a portion of the main replacements proposed for 2021. Please clarify, and indicate the total cost of mains currently proposed to be replaced in 2021.

RESPONSE:

They were the only planned water main replacements when the Petition was filed. The other watermain replacements listed in Exhibit DLW-1, page 4, lines 28-33 were completed in 2020 with only restoration and paving scheduled for 2021.

The two projects planned for 2021, Balcom Street and Euclid Avenue, are going to be deferred to 2022 and replaced with water main replacements associated with City of Nashua Sewer project and a NHDOT project in Amherst. The watermain replacements are associated with the following streets Faxon Street, Faxon Avenue, Kendrick Street, and Miami Street in the City of Nashua. The NHDOT project is a reconstruction of a section of Route 101A in Amherst and required the relocation/replacement of approximately 1,500 linear feet of 24-inch diameter water main. The budget for these projects will come from projects that are being deferred to 2022 including Balcom Street and Euclid Avenue mentioned above.

Pennichuck Water Works, Inc.
DW 21-023
2021 QCPAC - Qualified Capital Project Adjustment Charge
Responses to DOE Data Requests –Set 1

Date Request Received: 7/7/21
Request No. DOE 1-18

Date of Response: 7/20/21
Witness: John J. Boisvert

REQUEST:

Re: Boisvert testimony, Page 14 (Page 54), Lines 12-22:

- a) Please provide a copy of the permit to construct the deep-water intake, or other documentation indicating the requirement to complete the Modified Source Water Protection Plan.
- b) Is the Plan being prepared internally or externally? Please explain.
- c) If externally, how was the contractor chosen?
- d) When is the Plan expected to be completed?

RESPONSE:

- a) A copy of the NHDES letter dated January 19, 2021 approving the design of the project is found in Attachment DOE 1-18. The section of the letter requiring the Modified Source Water Protection Plan (MSWPP) is highlighted.
- b) The MSWPP is being completed with the assistance of a consultant and with internal staff resources.
- c) The consultant (Geosyntec) was selected based upon their qualifications.
- d) On or about December 1, 2021.

Pennichuck Water Works, Inc.
DW 21-023
 2021 QCPAC - Qualified Capital Project Adjustment Charge
 Responses to DOE Data Requests –Set 1

Date Request Received: 7/21/21
 Request No. DOE 1-19

Date of Response: 7/20/21
 Witness: Donald L. Ware

REQUEST:

Re: Boisvert Testimony, Page 16 (Page 56), Lines 21-22 and Page 22 (Page 62), Lines 7-14; Updated Exhibit DLW-1, Page 3, Line 102:

- a) Based on Mr. Boisvert's testimony, it would appear that the currently anticipated useful life of a carbon media filter is approximately four years. Please confirm.
- b) Please indicate the recorded service life(s) and annual depreciation expense for 'Carbon media changeout-filters 5&6' in the amount of \$495,331 indicated on Line 102 of Page 3 of Updated Exhibit DLW-1.

RESPONSE:

- a) The projected four year carbon life is based on the fact that the current media was treating Pennichuck Brook water with high levels of PFOA during the summer of 2020. This was done because one of the two original raw water pumps in the Merrimack River Raw Water Station had not been rebuilt and the new third raw water pump had not been installed yet. The use of Pennichuck Brook water for about 35% of the raw water supply during the Summer of 2020 which resulted in the capacity of carbon in filters being used more quickly than if all the water had come from the Merrimack River. The Company anticipates an average filter life of about 7 years (see response to DOE 1-15) now that the Merrimack River raw water supply can meet almost all of Pennichuck's raw water supply needs, as a result of the rebuild of the two existing pumps and addition of the third river pump.
- b) For depreciation expense purposes, the Company recorded the service life of the Carbon media as 7 years which would result in an annual depreciation expense of \$70,762.

Pennichuck Water Works, Inc.
DW 21-023
2021 QCPAC - Qualified Capital Project Adjustment Charge
Responses to DOE Data Requests –Set 1

Date Request Received: 7/7/21
Request No. DOE 1-20

Date of Response: 7/20/21
Witness: John J. Boisvert

REQUEST:

Re: Boisvert Testimony, Page 20 (Page 60), Lines 9-10: With regard to ‘2022 Vertical Projects’, Mr. Boisvert states that, “The replacement of the Milford Booster Station is also anticipated in 2021.” (Emphasis added.) Please confirm that the replacement of the Milford Booster Station will, in fact, occur in 2022 per Updated Exhibit DLW-1, Page 5, Line 47.

RESPONSE:

Design of the Milford Booster Station will be undertaken in 2021 and replacement will commence in 2022. The proposed land upon which the replacement station is to be located is owned by the NH Department of Transportation (NHDOT). The NHDOT has advised that the approval process for them to grant the required easement could take 6 to 12 months pushing construction to 2022. The cost to construct this station will be borne by the Milford Water Department via its fixed annual payment which will be determined as part of an upcoming Cost of Service Study and petition to the DOE to approve a new PWW-Milford Water Department Special Purchase Water Contract to be submitted later this year and planned to go into effect in March of 2022.

Pennichuck Water Works, Inc.
DW 21-023
 2021 QCPAC - Qualified Capital Project Adjustment Charge
 Responses to DOE Data Requests –Set 1

Date Request Received: 7/7/21
 Request No. DOE 1-21

Date of Response: 7/20/21
 Witness: Donald L. Ware

REQUEST:

Re: Proposed 2021 QCPAC Budget:

- a) Does the Company agree that the annual ‘current year’ capital budget, which in this filing is 2021, should be inclusive of a budget line item and amount pertaining to the anticipated interest on short-term borrowings, i.e. the Fixed Asset Line of Credit (FALOC), incurred during the construction / acquisition of the current year CapEx, that will be included in the subsequent year bonding? Please explain.
- b) Please provide the short-term interest amount that the Company currently anticipates will be incurred relative to its 2021 CapEx. Please provide the detailed calculation(s).

RESPONSE:

- a) Yes.
- b) It is not possible to accurately project the expected short-term interest amount that the Company currently anticipates it will incur in regard to its 2021 Capex necessary to provide an accurate “detailed calculation” due to:
 - 1. Project timing which impacts when FALOC funds will be drawn. The timing and magnitude of cash draws impacts both the interest expense on the borrowed funds and the amount of expense associated with the unused fee portion of the FALOC.
 - 2. Final project and final project cost that will be completed and used and useful at the end of the year.
 - 3. The interest charged on FALOC draws varies with LIBOR. The Company has no way to project what the daily LIBOR rate will be.
 - 4. When the bonds will be sold in 2022 to pay off the FALOC.

With the qualifiers noted above, the Company has included a very high-level projection, with detailed calculations of the interest it projects will be incurred on the FALOC, based on current project statuses and anticipated project expenditure draws, through April 4, 2022 (the estimated date for the sale of the 2022 Bonds used to pay

off the 2021 FALOC borrowings). Attachment DR1-21 shows the actual FALOC draws to through 7/8/2021. FALOC draws are typically made once a month, after the close of the previous month's financials. Please note that the July FALOC for June's capital expenditures has not been made so the draw shown on July 21 is an estimate. The attached estimate starts at the current FALOC borrowed balance of \$2,076,335 and then projects out additional monthly FALOC draw amounts based on a current estimated total PWW 2021 Capex expenditures of \$10,564,200. As noted above, the timing of these projects and final expenditures associated with projects is still very much in flux. Please note that the Harris Dam and Supply Pond projects have been delayed from 2021 to 2022 due to a delay in permitting approvals. Correspondingly, the City of Nashua has added sewer replacement projects to its list of calendar year 2021 work that were not known in early 2021, and as such the Company has added about \$1,000,000 in projected water main replacement work. Since the scope of the City projects are not well defined at present, the \$1,000,000 is a very high-level placeholder estimate. The final expenditures and timing of these watermain expenditures is entirely dependent upon the final scope and timing of the City sewer replacement projects. The attached detailed calculations project the interest expense on the FALOC at \$128,379.

Pennichuck Water Works, Inc.
DW 21-023
2021 QCPAC - Qualified Capital Project Adjustment Charge
Responses to DOE Data Requests –Set 1

Date Request Received: 7/7/21
Request No. DOE 1-22

Date of Response: 7/20/21
Witness: John J. Boisvert

REQUEST:

Re: Updated Exhibit DLW-1, Page 5 (2022 CapEx), Line 47: The cost of the Milford Booster Station project appears to have increased from \$660,000 (as a 2021 project in DW 20-020) to \$800,000 in the current docket. Please explain.

RESPONSE:

The February 2020 estimate was increased based on the increases in construction costs of approximately 9% (Engineering New Record Construction Cost index) since the project was originally estimated in 2019, along with the addition of a third pump to ensure full redundancy to meet the required demand if one pump were out of service. As noted above, the cost of this station will be borne by Town of Milford. PWW will bond for the project but Milford, via its fixed annual payment, will pay 1.10 times the final principal and interest associated with the project based on the final cost of the project.

Pennichuck Water Works, Inc.
DW 21-023
 2021 QCPAC - Qualified Capital Project Adjustment Charge
 Responses to DOE Data Requests –Set 1

Date Request Received: 7/7/21
 Request No. DOE 1-23

Date of Response: 7/20/21
 Witness: John J. Boisvert

REQUEST:

Re: Extent of engineering resources available to the company:

- a) Please indicate generally what engineering services are provided in-house and what engineering services are contracted out.
- b) Please indicate the number of people providing engineering services within the company and the job title of each.
- c) Please list all engineering studies or reports produced either internally or externally in the past five years in relation to the Nashua core system, including title, responsible entity/author, year and cost.

RESPONSE:

a) The Company generally performs all engineering services in-house that fall within the expertise, technical training and professional experience of the engineering staff. Including the following:

- Water main replacement/addition planning and design
- Hydraulic modeling
- Hydrologic monitoring and analysis of source waters
- Water quality monitoring of source waters
- Invasive species survey and mitigation within sources waters
- Well design, monitoring, and assessment
- Booster station planning, evaluation, and design
- Treatment process planning, evaluation, and design
- Construction Management including design, bidding, inspection and project documentation.
- Private (developer main extensions) construction management and inspection
- New customer service design and inspection (residential, commercial, and industrial) including domestic service, fire service, and cross connections
- Technical support to the Water Supply, Distribution, and Revenue and Customer Operations Department
- Environmental permitting including source water protection, conservation reporting, water use reporting, and groundwater monitoring and analysis.

- Geographical Information Systems (GIS) design, implementation, maintenance, management, and application development.
- Management and technical support for global positioning system (GPS) surveying applications.
- Computerized Maintenance and Management System (CMMS - “Cityworks”) implementation, design, development, administration, management, training, and support.
- Asset Management administration, development, utilization, management, and support.
- Long term capital planning.
- Regulatory support (NH DOE rate, financing, QCPAC, etc.)
- NHDES SRF and NH Drinking Water and Groundwater Trust Fund financing (applications/requests).

The Company contracts professional services when the technical requirements for those services are not part of the in-house staff qualifications or the level of complexity requires more experience than in-house resources are comfortable providing (the Merrimack River Intake design for example). In addition, the Company may outsource engineering services on larger projects where the Company simply does not have the staff resources needed to complete a project in a timely manner (the Water Treatment Facility upgrades in 2006-2011). Outside services recently used to support in-house engineering efforts include:

- Professional Electrical Engineering services
- Professional Architectural Services
- Professional Structural Engineering Services
- Professional Geotechnical Engineering Services (soils and foundations)
- Professional Instrumentation and Controls Engineering Services (SCADA)
- Professional Mechanical Engineering Services (building applications including plumbing, HVAC and worker safety)
- Professional Geology and Hydrogeology Services (new well siting, geophysics)
- Professional Civil/Site Engineering Services (local planning board permitting)
- Wetland Scientist Services (wetlands mapping and permitting)
- Real Estate Appraisal Services (easement and land acquisition)
- Professional Land Surveying Services (boundary and topographic mapping)

b) The following table identifies the members of the Engineering Department and their positions. There are 15 full time staff in the department. In the summer, the department may increase by 2 to 4 temporary summer engineering interns when the volume of field work (monitoring) becomes more intensive.

Department	Position Title	First Name	Last Name
Engineering	Engineering Program Administrator	Kelsey	Dillon
Engineering	Distribution Engineer (E.I.T.)	Ryan	Houle
Engineering	Construction Services Manager (P.E.)	Mark	Filion
Engineering	CAD/GIS Technician	Eric	Levesque

Engineering	GIS Technician	Brenden	Bowen*
Engineering	Engineer (E.I.T)	Casey	Harding*
Engineering	Engineer (E.I.T)	Hannah	Marshall*
Engineering	Environmental & Operations Data Analyst	Ashley	Piper*
Engineering	Distribution Engineering Manager (P.E.)	Peter	Tedder
Engineering	Engineering Business Analyst	Dawn	Lavacchia
Engineering	Chief Engineer (P.E.)	John	Boisvert
Engineering	Engineering Construction Manager	David	Levasseur
Engineering	Engineering Construction Manager	John	Gureckis
Engineering	Engineering Construction Manager	Paul	Dubowik
Engineering	Engineering Service Manager	Richard	Philbrook
Engineering	GIS Administrator (G.I.S.P.)	Jay	Guarneri
Engineering	CAD Technician	Maurene	Pepin
*Former PWV interns			

c) Projects and studies are completed primarily in-house and do not usually result in a formal report in the classical sense. Evaluations performed using outside consultants generally do if the consultant performed most of the analysis. There are times when the Company works collaboratively with a consultant. In this case the consultant is called upon to provide specific expertise at various times during the evaluation.

Year	Title	Status	Responsible Party	Cost*
2020-2021	AWIA – Risk and Resiliency Assessment, Nashua Core	Regulatory requirements are complete ongoing detailed assessments	CDM Smith (Consultant)	\$60,000*
2020-2021	AWIA – Emergency Response Plan, Nashua Core	Regulatory requirements are complete ongoing detailed assessments	CDM Smith (Consultant)	\$45,000*
2020 – 2021	Merrimack River Modified Source Water Protection Plan	In Progress	Geosyntec (Consultant)	\$98,200**
2018	Merrimack River Safe Yield Evaluation	Complete	Tighe & Bond And Streamworks, LLC (Consultants)	\$45,680

2014	Kessler Farm Tank Inspection	Complete	Tank Industry Consultants	\$7,985.00
2014	Retired Pumping Station Hazardous Materials Evaluations for Demolition	Complete	Aries Engineering	\$15,000
* These projects have achieved the regulatory objectives – detailed assessments of action items ARE ongoing. Cost are approximate as internal labor is not included.				
** Project will be complete in 2021				

Many of the assessments and evaluations performed by the Engineering staff are associated with the design and construction of ongoing capital improvements and infrastructure replacement. The value of the projects that the Engineering Department supports each year varies but, is in the range of \$8,000,000 and \$16,000,000 depending upon the year (not including developer and other private works provided to the Company) and the type of projects completed in that year.

Pennichuck Water Works, Inc.
DW 21-023
2021 QCPAC - Qualified Capital Project Adjustment Charge
Responses to DOE Data Requests –Set 1

Date Request Received: 7/7/21
Request No. DOE 1-24

Date of Response: 7/20/21
Witness: Donald L. Ware

REQUEST:

Re: Clearing Snow from Hydrants

What entity is typically responsible for clearing snow from hydrants in the various Pennichuck Water, Pennichuck East and Pittsfield systems? Do any written agreements exist in this regard? Please explain.

RESPONSE:

Except for the hydrants in the City of Nashua, Pennichuck Water, Pennichuck East and the Pittsfield Aqueduct Company clear the snow from the public hydrants in each community where public hydrants exist. There are no written agreements in this regard. The Company has always cleared the snow from the non-Nashua hydrants and recovered the expenses associated with clearing snow from hydrants in each rate case as an operating expense. This has been the Company's mode of operation for as long as I have been employed at the Company (Since April 1995). The City of Nashua has its fire department clear the hydrants and have for as long as I have been with the Company. The Nashua Fire Department (based on word of mouth) took over clearing its hydrants of snow in the mid 1980's when the then newly appointed fire chief decided it would be good exercise for the fire fighters, as well as help familiarize the fire fighters with the location of the hydrants.

Pennichuck Water Works, Inc.
DW 21-023
 2021 QCPAC - Qualified Capital Project Adjustment Charge
 Responses to DOE Data Requests –Set 1

Date Request Received: 7/7/21
 Request No. DOE 1-25

Date of Response: 7/20/21
 Witness: Donald L. Ware

REQUEST:

Re: Boil Water Orders

If the company were to experience a boil water order affecting, for example, the entire northwest high pressure system and lasting several days including a weekend, please indicate:

- a) The range of anticipated company responses including customer notification efforts.
- b) What company personnel would be involved.
- c) How many customers would be affected in this portion of the system.
- d) Who would be responsible to notify customers in Milford.
- e) What such an event might cost, including sampling, testing, delivery of notices, personnel time, etc.
- f) Have any Pennichuck companies had boil water orders in any of their larger systems in the past few years? If so, please indicate year and location.

RESPONSE:

a) The Company's Emergency Action Plan would have the Company CEO convene a meeting of the Pennichuck Corporation Emergency Management Team (PCEMT). That team would establish the following:

- 1. Quickest and most efficient way to get the message out to its customers. The number of customers that receive water service in the Northwest system is about 3,700. The Company, based on the number of customers to be notified, would:
 - i. Use its automated customer notification system which has text, phones call and email capabilities. A short message would be put together and sent to customer via text, phone call or email telling customer not to consume or cook with the water and to go to the Company's website for more information. The company has contact information for about 92% of its customers (although some of that information is likely dated). Dependent upon the Company's phone and computer systems use at the time of the outbound noticing it would be expected that about 1,000 to 1,500 notifications would be sent out per hour

so it would be expected that it would take between 2-1/2 to 4 hours to notice all customers where we had customer contact information.

- ii. The Company's website would be updated on the main page with more detailed information regarding the boil order and what customers should do in response to the boil order.
- iii. The Company's Facebook page would get a post with the same message as the Company's website.
- iv. The Company would directly call its "critical" customers located in the Northwest system as flagged in our Munis customer service software. Critical customers include, but are not limited to Schools, Medical facilities, Restaurants, and Special Contract customers, such as the Milford Water Department. The Company would make these calls using all available customer service representatives.
- v. The Company would immediately notify the Mayor's office in Nashua, as well as the Nashua Health Department.
- vi. The Company would reach out to local news media (press, radio, TV) via a press release from its CEO.
- vii. Post its electronic sign boards (it owns two) at the primary highway entrances into the Northwest system, the off ramps from Exits 7 and 8 off the Nashua Turnpike.

b) The following staff would be involved in the response:

- 1. The PCEMT staff consisting of the CEO, the COO and all Senior Managers at the Company.
- 2. Customer Service staff to make calls to critical customers and to handle inbound calls. For a notification of this size there would probably be at least 6 Customer Service staff brought in to work the phones, get website and Facebook posting completed.
- 3. Field Staff would post message signs and begin flushing hydrants in an effort to clear potentially contaminated water from the system. There could be 3 to 4 field staff.

c) There are about 3,700 non-fire related connections in the Northwest system, including connections to the Town of Milford water system and the Merrimack Village District water system.

- d) PWW would notify the Milford Water Department and the Town of Milford would be responsible for notifying its own customers.
- e) The Company would not be comfortable projecting the total cost of getting a notification completed and reaching a point where the boil order was rescinded by the NHDES. The goal would be to notify all parties as quickly as possible and to work on locating the potential source of the e-coli (if possible) and to see that the system is cleared of any contaminated water and any bacteria testing required by the NHDES is completed as quickly as possible.
- f) The Pennichuck Company's last boil water order was issued in September of 2020 for the Gage Hill CWS, located in Pelham, with 27 residential customers. The prior boil order was issued in one of the Pennichuck Company's systems in 2016 for the Forest Ridge CWS, located in Exeter, with 52 residential customers.

The Pennichuck Companies have not had a boil water order in any of its water systems with more than 300 customers during my 26+ years at the Company.

	Approved DW19-084 Revenues per Order#			QCPAC For 2019 Capital Additions		QCPAC For 2020 Capital Additions pro forma			QCPAC Surcharge for 2020 Capital Additions			QCPAC For 2021 Capital Additions pro forma			QCPAC Surcharge for 2021 Capital Additions			QCPAC For 2022 Capital Additions pro forma			QCPAC Surcharge for 2022 Capital Addition			QCPAC For 2023 Capital Additions pro forma			QCPAC Surcharge for 2023 Capital Additions		
City Bond Fixed Revenue Requirement (CBFRR)	\$	7,729,032		\$	-		\$	7,729,032	\$	-		\$	7,729,032	\$	-		\$	7,729,032	\$	-		\$	7,729,032	\$	-		\$	7,729,032	
DW19-084 Operating Expense Revenue Requirement	\$	21,296,618	(1)	\$	416,593		\$	21,713,211	\$	155,083	(4)	\$	21,868,294	\$	285,917	(4)	\$	22,154,211	(4)	\$	240,298		\$	22,394,509	\$	257,112		\$	22,651,621
DW19-084 Annual Principal and Interest Payments	\$	6,176,477	(2)	\$	854,442		\$	7,030,919	\$	351,395	(5)	\$	7,382,314	\$	676,516		\$	8,058,830		\$	551,503		\$	8,610,333	\$	568,586		\$	9,178,918
Principal and Interest Coverage Requirement		1.10	(3)					1.10					1.10					1.10					1.10						1.10
DW19-084 Principal and Interest Revenue Requirement	\$	6,794,124					\$	7,734,011				\$	8,120,546				\$	8,864,713				\$	9,471,366				\$	10,096,810	
DW19-084 Revenue Requirement	\$	35,819,774					\$	37,176,254				\$	37,717,871				\$	38,747,956				\$	39,594,907				\$	40,477,462	
DW19-084 Revenue Requirement less Other Revenues	\$	35,399,062	(12)				\$	36,755,541				\$	37,297,159				\$	38,327,244				\$	39,174,194				\$	40,056,750	
DW19-084 Revenue Requirement less Other Revenues less Fixed Special Contract Revenues	\$	34,792,618	(8)				\$	36,149,098				\$	36,690,716	(8)			\$	37,720,800	(8)			\$	38,567,751				\$	39,450,307	
Percent QCPAC Surcharge (9)								3.90%					1.56%					2.96%					2.43%						2.54%
Cumulative QCPAC Surcharge (13)								3.90%					5.46%					8.42%					10.85%						13.39%
Cumulative QCPAC monthly increase in average single family residential bill.							\$	2.17				\$	3.04				\$	4.68				\$	6.04				\$	7.45	
Average monthly single family residential bill with QCPAC.	\$	55.65					\$	57.82				\$	58.69				\$	60.34				\$	61.69				\$	63.10	

Notes:

- (1) Operating Expense Revenue requirement is the sum of the Total Operating Expenses, Property Tax Expense, Amortization Expense and Payroll Tax Expenses approved in NHPUC Order #26,425.
- (2) Annual Principal and interest payments for PWW debt associated with all plant in service as approved in DW19-084.
- (3) Principal and interest coverage of 1.10 is as approved in DW16-806.
- (4) QCPAC operating expenses are based on the property taxes for used and useful plant added during the year
- (5) Portion of Annual Principal and interest payments for debt associated with plant placed in service between 1/1/2020 and 12/31/2020 based on a 30 year bond with interest rate of 4.056692% based on a bond issuance in April 2021
- (6) QCPAC Principal and Interest expenses are based on 30 year bond with interest rate of 4.00% for 2021 through 2023 Capital Expenditures unless funding is via an SRF/DWGTf financing.
- (7) QCPAC percent revenue surcharges based on increase in revenues from the revenues granted in DW19-084
- (8) Reduction in revenues associated with fixed contracts as follows:

Hudson Annual Fixed Chg	\$	32,800	Milford Annual Fixed Chg	\$	81,000	A-B Annual Fixed Chg	\$	371,430	PEU Annual Fixed Chg	\$	121,213
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- (9) QCPAC Principal and Interest expenses for DWGTf financing are based on a 30 year bond with interest rate of 2.704% for the Nothwest system projects and 3.38% for the Merrimakck River Intake project.
- (11) Cumulative surcharge percentage is based on total surcharge revenues collected divided by the revenues granted in DW19-084 that are impacted by the QCPAC.
- (12) Operating expense revenues approved in DW19-084 less total Other Revenues of \$ 420,712
- (13) QCPAC percent revenue surcharges based on revenues approved in DW19-084.

Impact on Single Family Residential Home:	DW19-084
Monthly meter charge approved in DW19-084 -	\$ 24.34
Average Single Family Consumption per DW19-084 (CCF) -	7.77
Volumetric Charge approved in DW#19-084 -	\$ 4.03
Ave. Single Family monthly bill with rates approved in DW19-084 -	\$ 55.65

Pennichuck Water Works, Inc.
DW 21-023
2021 QCPAC Filing
2/11/2021
Revised 5/26/2021 per Staff Technical Session DR

PWW QCPAC Filing
Exhibit DLW-1
Page 2

Project Name/Description	Project Description	Work Order #	Financing Docket No.	NHPUC Order No.	Date of NHPUC Order	Board Approved 2019 Capex Budget	Board Approved 2019 Capex Budget, Revised 8/24/19	Eligible for 2020 QCPAC Surcharge	Final QCPAC eligible Project Costs as of 12/31/2019	Community	Taxable	Tax Rate (I)	QCPAC Eligible Property Tax Expense (Based on Qrly Update)	Explanation for Change/Addition/Deletion since Petition Filing
New Services (10)	Single Family, Owner Build, New Homes	20 workorders	DW17-183	26,101	2/2/2018	\$ 46,000	\$ 46,000	Yes	\$ 69,936	Various	Yes	\$ 27.02	\$ 1,890	12 installed through 12/31.
Renewed Services (20)	Replacement of failed services	21, 22 & 23 workorders	DW17-183	26,101	2/2/2018	\$ 92,000	\$ 92,000	Yes	\$ 101,648	Various	Yes	\$ 27.02	\$ 2,747	29 installed through 12/31.
Hydrants (10)	Replacement of non-functional hydrants	30 & 31 workorders	DW17-183	26,101	2/2/2018	\$ 50,000	\$ 50,000	Yes	\$ 40,209	Various	Yes	\$ 27.02	\$ 1,086	7 installed through 12/31.
Gates (10)	Replacement of Failed Gate Valves	12 & 13 workorders	DW17-183	26,101	2/2/2018	\$ 40,000	\$ 40,000	Yes	\$ 10,573	Various	Yes	\$ 27.02	\$ 286	4 installed through 12/31.
Radios (2750)	Replace out of warrantee failed radio meter readers.	54 workorders	DW17-183	26,101	2/2/2018	\$ 275,000	\$ 30,000	Yes	\$ 48,942	Various	Yes	\$ 27.02	\$ 1,322	Deferred Radio Replacement program (Radios are 12 years old). 495 replaced through 12/31.
Meters (Growth) 5/8"-2" - Core & CWS (480)	Meters (Growth) 5/8"-2" - Core & CWS (480)	50 workorders	DW17-183	26,101	2/2/2018	\$ 48,000	\$ 48,000	Yes	\$ 207,025	Various	Yes	\$ 27.02	\$ 5,594	1732 installed/repalced through 12/31.
Meters 5/8"-6" Lead Meter Exchange - Core & CWS (3000)	Meters 5/8"-6" Lead Meter Exchange - Core & CWS (3000)	50 workorders	DW17-183	26,101	2/2/2018	\$ 300,000	\$ 300,000	Yes		Various	Yes	\$ 27.02	\$ -	
Entrance Security Gate & Perimeter Fence	Entrance Security Gate & Perimeter Fence	1901598	DW17-183	26,101	2/2/2018	\$ 75,000	\$ 75,000	Yes	\$ 66,204	Merrimack	Yes	\$ 28.86	\$ 1,911	
Replace 13 yr Vac Trailer - Safety & Maint issue	Replace 13 yr Vac Trailer - Safety & Maintenance issue	1917721	DW17-183	26,101	2/2/2018	\$ 100,000	\$ -	Yes	\$ 29,710	Merrimack	Yes	\$ 28.86	\$ 857	Then Company was leasing a vac machine for 2019. It was decided to buy out the lease.
Protectus Meter Upgrade	Spitbrook Rd Protectus Meter Upgrade	n/a	DW17-183	26,101	2/2/2018	\$ 21,000	\$ 21,000	Yes	\$ -	Nashua	Yes	\$ 26.23	\$ -	Deferred until 2020.
Pipe Freeze Kits (2)	RoFrost Turbo 2 Electric Pipe Freeze Kts	1915135	DW17-183	26,101	2/2/2018	\$ -	\$ 7,400	Yes	\$ 6,970	Nashua	No	\$ 26.23	\$ -	Existing Freeze kits have failed and not repairable 15+ years old.
Plate Compactors (4)	Replacement of failed compactors unable to obtain repair parts.	1918551	DW17-183	26,101	2/2/2018	\$ -	\$ 17,500	Yes	\$ 15,888	Nashua	No	\$ 26.23	\$ -	Existing units have failed and parts for repair are not available.
Network Digital Display for Distribution Department	Relocate & network display to Assignnment room & new 75" display in Conference Room.	1917719	0.1 DSRR			\$ 2,700		No	\$ 2,597	Merrimack	No	\$ 28.86	\$ -	Existing steel sander rusted through and was replaced with new sander.
Poly-Caster Sander	Poly-Caster Sander	1917720	DW17-183	26,101	2/2/2018			Yes	\$ 7,460	Merrimack	No	\$ 28.86	\$ -	
2018 Dodge Ram 2500 (#313)	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1907613	0.1 DSRR			\$ -	\$ 1,969	No	\$ 1,969	Merrimack	No	\$ 28.86	\$ -	
2018 Dodge Ram 2500 (#314)	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1907612	0.1 DSRR			\$ -	\$ 1,969	No	\$ 1,969	Merrimack	No	\$ 28.86	\$ -	
2018 Dodge Ram 2500 (#315)	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1907615	0.1 DSRR			\$ -	\$ 2,542	No	\$ 2,542	Merrimack	No	\$ 28.86	\$ -	
2018 Dodge Ram Promaster 1500 Cargo Van (#347)	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1907987	0.1 DSRR			\$ -	\$ 1,060	No	\$ 1,060	Merrimack	No	\$ 28.86	\$ -	
2018 Dodge Ram Promaster 1500 Cargo Van (#348)	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1907988	0.1 DSRR			\$ -	\$ 1,060	No	\$ 1,060	Merrimack	No	\$ 28.86	\$ -	
2018 Dodge Ram Promaster 1500 Cargo Van (#349)	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1907989	0.1 DSRR			\$ -	\$ 1,060	No	\$ 1,060	Merrimack	No	\$ 28.86	\$ -	
Meter Data Logging Equipment	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1907885	0.1 DSRR			\$ -	\$ 2,849	No	\$ 2,850	Various	Yes	\$ 27.02	\$ 77	Equipment used in leak detection.
Gilman Street	Replace 1470 LF of 8 inch CI with 12 inch DIPCL.	1607377, 1702856, 1806433, 1901176	DW17-183	26,101	2/2/2018	\$ 550,000	\$ 615,000	Yes	\$ 661,270	Nashua	Yes	\$ 26.23	\$ 17,345	Pavement contribution to the City of Nashua paid in 2018 (\$127,264).
Elm Street	Replace 875 LF of 6 inch CI with 12 inch DIPCL.	1702871, 1812907, 1901599	DW17-183	26,101	2/2/2018	\$ 559,350	\$ 255,000	Yes	\$ 373,328	Nashua	Yes	\$ 26.23	\$ 9,792	Pavement contribution to City of Nashua of \$67,650 included.
Monroe Street	Replace 310 LF of 4 inch CI with 8 inch DIPCL.	1702866, 1812908, 1901602	DW17-183	26,101	2/2/2018	\$ 122,270	\$ 120,000	Yes	\$ 97,541	Nashua	Yes	\$ 26.23	\$ 2,558	Pavement contribution to City of Nashua of \$18,000 included.
Garden Street	Replace 74 LF of 8" CIP with 8 inch DIPCL and reconnect City Hall Fire serviced missed during Elm St work.	1918487	DW17-183	26,101	2/2/2018	\$ -	\$ -	Yes	\$ 61,918	Nashua	Yes	\$ 26.23	\$ 1,624	Connecting Nashua City Hall sprinkler connection that was missed during the Elm St project. Also replaces a portion of the Garden Street water main. Per City almost all work had to be performed on Sunday nights. Final paving in Spring 2020 \$18,000 not included.
W.Pearl Street	Replace 340 LF of 8" CIP with 120 LF of 12" DIPCL and 220 LF of 8" DIPCL.	1702869, 1812909, 1901603	DW17-183	26,101	2/2/2018	\$ 138,050	\$ 140,000	Yes	\$ 178,120	Nashua	Yes	\$ 26.23	\$ 4,672	Pavement contribution to City of Nashua of \$27,200 included.
Harvard Street	Replace 800 LF of 8 inch CI with 8 inch DIPCL.	1814742, 1901604	DW17-183	26,101	2/2/2018	\$ 247,500	\$ 249,200	Yes	\$ 259,668	Nashua	Yes	\$ 26.23	\$ 6,811	Pavement contribution to City of Nashua of \$38,000 included.
West Hollis Street Check Valve Pit	Install at the int of W. Hollis St and Panther Dr.	n/a	DW17-183	26,101	2/2/2018	\$ 88,000	\$ -	Yes		Nashua	Yes	\$ 26.23	\$ -	Deferred to future year to accommodate additional water main projects.
NWS Improvements - Manchester Street	Add 2700 LF of 24 inch DIPCL on Manchester St.	1806805, 1900422	DWGTF Financing DW18-133	26,197	12/3/2018	\$ 660,000	\$ 660,000	Yes	\$ 507,141	Nashua	Yes	\$ 26.23	\$ 13,302	Added security fence replacement (1,700 LF) along Manchester Street - some work will carry over into 2020 included.
NWS Improvements -Route 101A and Route 121 (Amherst)	Add 2200 LF of 12 inch DIPCL to close loop.	1806810, 1901607				\$ 550,000	\$ 550,000	Yes	\$ 548,252	Nashua	Yes	\$ 26.23	\$ 14,381	Adjusted cost based on final installed materials in 2020 - some work will carry over into 2020.
NWS Improvements - Tinker Road	Replace 825 LF of 16 inch AC with 825 LF of 24 inch DIPCL.	1702835, 1806434, 1900421				\$ 522,500	\$ 522,500	Yes	\$ 369,378	Nashua	Yes	\$ 26.23	\$ 9,689	Adjusted cost based on final installed materials in 2020 - some work will carry over into 2021.
NWS Improvements - Deerwood Drive & Amherst St Intersection	Replace 1300 LF of 12 inch AC with 1300 LF of 24 inch DIPCL.	1806808, 1901609				\$ 467,500	\$ 467,500	Yes	\$ 158,469	Nashua	Yes	\$ 26.23	\$ 4,157	Adjusted cost based on final installed materials in 2020 - some work will carry over into 2022.
NWS Improvements - Deerwood Dr. Northwest Blvd Loop	Add 3400 LF of 20 inch HDPE including RR pipe jacking.	1806806, 1901610				\$ 635,800	\$ 635,800	Yes	\$ 1,302,871	Nashua	Yes	\$ 26.23	\$ 34,174	Adjusted cost based on final installed materials in 2020 - some work will carry over into 2023.
NWS Improvements Ponemah Rd/Route 101A Loop	Add 2200 LF of 12 inch DIPCL to close two loop major dead ends.	1901611				\$ 484,000	\$ 484,000	Yes	\$ -	Nashua	Yes	\$ 26.23	\$ -	Project cancelled and replaced with piping in projects above.
NWS Improvements - Engineering Design and Inspection	Engineering and Inspection of NW System watermain improvements.		0.1 DSRR			Included in NWS Improvemts above	Included in NWS Improvemts above	No	\$ 174,347	Nashua	Yes	\$ 26.23	\$ 4,573	
City of Nashua Sewer - Chase Street	Replace 470 LF of 6 inch CIP with 470 LF of 6 inch DIPCL.	1829925, 1900484	DW17-183	26,101	2/2/2018	\$ 176,000	\$ 190,000	Yes	\$ 175,370	Nashua	Yes	\$ 26.23	\$ 4,600	Project Complete
City of Nashua Sewer - Ash Street	Replace 710 LF of 6 inch CIP with 710 LF of 12 inch DIPCL.	1814367, 1915975	DW17-183	26,101	2/2/2018	\$ 242,000	\$ 162,800	Yes	\$ 156,252	Nashua	Yes	\$ 26.23	\$ 4,098	Pavement contribution to City of Nashua of \$20,832 included.
City of Nashua Sewer - Lake Street	Replace 2950 LF of 6 inch CI with 12 inch DIPCL.	1814740, 1915976	DW17-183	26,101	2/2/2018	\$ 990,000	\$ 1,710,500	Yes	\$ 1,608,850	Nashua	Yes	\$ 26.23	\$ 42,200	Pavement contribution to City of Nashua of \$344,000 included.
City of Nashua Paving - Vilna St.	Replace 15 LF of 1.5 inch steel with 2 inch HDPE for paving program.	1915860	DW17-183	26,101	2/2/2018	\$ -	\$ 16,750	Yes	\$ 17,400	Nashua	Yes	\$ 26.23	\$ 456	Includes final paving - complete
Interconnection to BWC	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1900429	0.1 DSRR			\$ -	\$ 3,400	No	\$ -	Nashua	Yes	\$ 26.23	\$ -	Carry over costs from project completed in 2018, pay for with 0.1 DSRR.
Woodward Avenue	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1910117	0.1 DSRR			\$ -	\$ 2,200	No	\$ -	Nashua	Yes	\$ 26.23	\$ -	Carry over costs from project completed in 2018, pay for with 0.1 DSRR.
Ritter Street	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1910116	0.1 DSRR			\$ -	\$ 6,890	No	\$ -	Nashua	Yes	\$ 26.23	\$ -	Carry over costs from project completed in 2018, pay for with 0.1 DSRR.
Factory Street	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1909270	0.1 DSRR			\$ -	\$ 20,209	No	\$ 20,209	Nashua	Yes	\$ 26.23	\$ 530	Carry over costs from project completed in 2018, pay for with 0.1 DSRR.
Taylor Street	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1906988	0.1 DSRR			\$ -	\$ 233	No	\$ 233	Nashua	Yes	\$ 26.23	\$ 6	Carry over costs from project completed in 2018, pay for with 0.1 DSRR.
Shakespeare HP System Exp	Carryover Costs to 2018 projects not recovered in prior QCPAC.	1901942	0.1 DSRR			\$ -	\$ 257	No	\$ 257	Nashua	Yes	\$ 26.23	\$ 7	Carry over costs from project completed in 2018, pay for with 0.1 DSRR.
City of Nashua Paving - Mill St.	Abandon 1.5" Steel water main and switch customers over to parrallel 8" water main.	1915006	0.1 DSRR			\$ -	\$ 17,900	No	\$ 17,321	Nashua	No	\$ 26.23	\$ -	Includes final paving - complete. Charged to Cost of Removal, Pay for with 0.1 DSRR.
City of Nashua Paving - Ferrylls Ct	Replace 35 ft of 1" copper water main crossing Canal St with a 4" DIPCL Water Main.	1908316	DW17-183	26,101	2/2/2018	\$ -	\$ 58,580	Yes	\$ 51,988	Nashua	Yes	\$ 26.23	\$ 1,364	Ferryalls was replaced last year to the limit of Canal St - complete this is phase 2 extending into Canal St - complete.
City of Nashua Paving - Salvail Ct	Replace 1.5" Steel water main and install a 4" DIPCL Water Main (contaminated area).	1908317	DW17-183	26,101	2/2/2018	\$ -	\$ 95,000	Yes	\$ 79,258	Nashua	Yes	\$ 26.23	\$ 2,079	Includes final paving - complete
City of Nashua Paving - Nutt St - Final Paving and restoration	Pavement restoration and final landscaping	1702842, 1907682	DW17-183	26,101	2/2/2018	\$ -	\$ 13,000	Yes	\$ 6,549	Nashua	Yes	\$ 26.23	\$ 172	\$6,240 of this will be recovered from Liberty Gas.
City of Nashua Paving - Cheshire St - Final Cleanup	Fence repair and site clean up	1908353	DW17-183	26,101	2/2/2018	\$ -	\$ 1,400	Yes	\$ 486	Nashua	Yes	\$ 26.23	\$ 13	Completion of 2018 Workorder Project
City of Nashua - Simon St at Will St Upgrade	Abandon pump station pit and clean up intersection pipe work for improved flows.	1915974	DW17-183	26,101	2/2/2018	\$ -	\$ 215,100	Yes	\$ 174,754	Nashua	Yes	\$ 26.23	\$ 4,584	Includes base paving - Finished paving required in 2020 not included.
City of Nashua Paving - Main St.	Main St final paving at intersection with Factory St. Carry over from 2018.	1900348, 1915859	DW17-183	26,101	2/2/2018	\$ -	\$ 24,500	Yes	\$ 1,402	Nashua	Yes	\$ 26.23	\$ 37	Final paving bill for this project.
City of Nashua Paving - Lemon St - Carry over from 2017	Paving only - Carry over from 2017.	1702875, 1915858	DW17-183	26,101	2/2/2018	\$ -	\$ 24,850	Yes	\$ 18,316	Nashua	Yes	\$ 26.23	\$ 480	Final paving bill for this project.
City of Nashua Paving - Lowell St - Carry over from 2017	Paving only - Carry over from 2017.	1915857	DW17-183	26,101	2/2/2018	\$ -	\$ 37,000	Yes	\$ 37,084	Nashua	Yes	\$ 26.23	\$ 973	Final paving bill for this project.
City of Nashua Paving - Green St - Carry over from 2017	Paving only - Carry over from 2017.	1915844	DW17-183	26,101	2/2/2018	\$ -	\$ 10,000	Yes	\$ 8,906	Nashua	Yes	\$ 26.23	\$ 234	Final paving bill for this project.
City of Nashua Paving - Beard St - Carry over from 2017	Paving only - Carry over from 2017.	1915845	DW17-183	26,101	2/2/2018	\$ -	\$ 25,900	Yes	\$ 21,689	Nashua	Yes	\$ 26.23	\$ 569	Final paving bill for this project.
City of Nashua Paving - Terrace St - Carry over from 2017	Paving only - Carry over from 2018.	1915843	DW17-183	26,101	2/2/2018	\$ -	\$ 20,500	Yes	\$ 10,600	Nashua	Yes	\$ 26.23	\$ 278	Final paving bill for this project.
City of Nashua Paving - Warren St - Carry over from 2017	Paving only - Carry over from 2017.	1702870, 1915842	DW17-183	26,101	2/2/2018	\$ -	\$ 19,500	Yes	\$ 16,762	Nashua	Yes	\$ 26.23	\$ 440	Final paving bill for this project.
Merrimack River Intake	Year Round Raw Water Intake from Merrimack River.	1502180, 1601369, 1701489, 1807360, 1901612, 1908505	DWGTF Financing DW19-026	26,247	5/3/2019	\$ 5,500,000	\$ 6,600,000	Yes	\$ 6,299,764	Merrimack	Yes	\$ 28.86	\$ 181,811	Bids higher than Engineers estimate due to tight contractor market and changes in final permit requirements that impacted initial design that engineers estimate was based on. An estimated amount of \$362,000 of clean up work to be carried into 2020.
Asset Management Outside GIS Consulting Services	Outside GIS Consulting Services	1900414	DW17-183	26,101	2/2/2018	\$ 60,000	\$ 60,000	Yes	\$ 7,961	Various	No	\$ 27.02	\$ -	
Asset Management Water Modeling Consulting	Water Modeling Consulting	1900414	DW17-183	26,101	2/2/2018	\$ 36,000	\$ 36,000	Yes	\$ -	Various	No	\$ 27.02	\$ -	
Asset Management Trimble R2 Units	Trimble R2 Units	1900414	DW17-183	26,101	2/2/2018	\$ 14,000	\$ 14,000	Yes	\$ -	Various	Yes	\$ 27.02	\$ -	
WAM/Synergen Upgrade Cost & Functionality Study	WAM/Synergen Upgrade Cost & Functionality Study	1900568, 1910219	0.1 DSRR			\$ -	\$ 45,000	No	\$ 27,804	Various	No	\$ 27.02	\$ -	Study to select replacement of Synergen CMMS system which goes unsupported at the end of 2020.
Investment in developer installed services at 1xannual revenue	Per tariff	n/a	DW17-183	26,101	2/2/2018	\$ 60,000	\$ 60,000	Yes	\$ 90,434	Various	Yes	\$ 27.02	\$ 2,444	
2019 Ford Escape	Replace Totalled 2015 Ford Escape	1907481	DW17-183	26,101	2/2/2018	\$ -	\$ 23,998	Yes	\$ 23,998	Merrimack	No	\$ 28.86	\$ -	Vehicle in accident. Vehicle totalled and needed to be replaced.
Bower Dam reconstruction and engineering	Bower Dam reconstruction and engineering	1824545, 1900432	0.1 DSRR			\$ 25,000	\$ 25,000	No	\$ -	Merrimack	No	\$ 28.86	\$ -	Design Engineering Work for 2020 Dam rehabilitation
Bowers Dam Letter of Deficiency design/analysis	Perform Hydraulic and Hydrology analysis, design improvements to address spillway capacity.	1901734, 1907078	0.1 DSRR				\$ 35,000	No	\$ -	Merrimack	No	\$ 28.86	\$ -	Letter of deficiency issued by the NHDES Dam Bureau regarding inadequate spillway capacity for this dam.
Harris Dam Letter of Deficiency design/analysis	Perform Hydraulic and Hydrology analysis, design improvements to address spillway capacity.	1907076	0.1 DSRR				\$ 40,000	No	\$ -	Merrimack	No	\$ 28.86	\$ -	Letter of deficiency issued by the NHDES Dam Bureau regarding inadequate spillway capacity for this dam.

Supply Pond Letter of Deficiency design/analysis	Perform Hydraulic and Hydrology analysis, design improvements to address spillway capacity.	1907077	0.1 DSRR				\$ 35,000	No	\$ -	Merrimack	No	\$ 28.86	\$ -	Letter of deficiency issued by the NHDES Dam Bureau regarding inadequate spillway capacity for this dam.
Booster Pump replacement/rebuild	Booster Pump replacement/rebuild	60, 61, 62 & 63 workorders	DW17-183	26,101	2/2/2018	\$ 40,000	\$ 15,445	Yes	\$ 11,260	Various	Yes	\$ 27.02	\$ 304	0 pumps replaced, 5 rebuilds through 12/31/2019.
Booster Pump replacement/rebuild	WTP Rebuild pump end, Intermediate Pump #3	1914986	DW17-183	26,101	2/2/2018	\$ -	\$ 24,555	Yes	\$ 24,554	Nashua	Yes	\$ 26.23	\$ 644	Pump Bearings failed on Intermediate Booster Pump at WTP.
Well Pump replacements	Well Pump replacements	60, 61, 62 & 63 workorders	DW17-183	26,101	2/2/2018	\$ 15,000	\$ 15,000	Yes	\$ 16,995	Various	Yes	\$ 27.02	\$ 459	4 replaced through 12/31/2019.
Chemical Feed pump replacements	Chemical Feed pump replacements	60, 61, 62 & 63 workorders	DW17-183	26,101	2/2/2018	\$ 10,000	\$ 10,000	Yes	\$ -	Various	Yes	\$ 27.02	\$ -	No replacements occurred during 2019.
Upgrade SCADA historian software, new hardware	Upgrade SCADA historian software, new hardware	n/a	DW17-183	26,101	2/2/2018	\$ 150,000	\$ 150,000	Yes	\$ -	Various	Yes	\$ 27.02	\$ -	Scope of project was more clearly defined resulting in a reduction in cost.
Twin Ridge rebuild softener system, install radon treatment.	Twin Ridge rebuild softener system, install radon treatment.	1907731	DW17-183	26,101	2/2/2018	\$ 50,000	\$ 50,000	Yes	\$ 11,112	Plaistow	Yes	\$ 25.93	\$ 288	Project scope was limited to MTM media replacement.
Misc. Structural Improvements	Misc. Structural Improvements	n/a	DW17-183	26,101	2/2/2018	\$ 20,000	\$ 10,700	Yes	\$ -	Various	Yes	\$ 27.02	\$ -	Reduced by replacement of failed Fire Alarm CPU.
Misc. Structural Improvements	Replace Fire Alarm System CPU.	1907102, 1910221	DW17-183	26,101	2/2/2018	\$ -	\$ 9,300	Yes	\$ 9,251	Nashua	Yes	\$ 26.23	\$ 243	Fire Alarm CPU failed due to electrical surge.
Misc. Structural Improvements	Replace Natural Gas Heater, High Pine Station.	1917491	DW17-183	26,101	2/2/2018			Yes	\$ 4,050	Nashua	Yes	\$ 26.23	\$ 106	Failed heater. Part of run rate Misc Structural Improvements.
Miscellaneous Equipment Purchased	Miscellaneous Equipment Purchased	n/a	DW17-183	26,101	2/2/2018	\$ 17,500	\$ 9,928	Yes	\$ -	Various	Yes	\$ 27.02	\$ -	
Miscellaneous Equipment Purchased	Purchase 2 Gas Monitors for WS Confined Space Program.	1907611	DW17-183	26,101	2/2/2018	\$ -	\$ 4,568	Yes	\$ 4,568	Nashua	Yes	\$ 26.23	\$ 120	Routine Miscellaneous Equipment purchase
Miscellaneous Equipment Purchased	Purchase Entry Tripod and Winch for WS Confined Space Program.	1910296	DW17-183	26,101	2/2/2018	\$ -	\$ 3,004	Yes	\$ 3,004	Nashua	Yes	\$ 26.23	\$ 79	Routine Miscellaneous Equipment purchase
Miscellaneous Equipment Purchased	Replace Chlorine Analyzer, Twin Ridge	1915362	DW17-183	26,101	2/2/2018	\$ -	\$ -	Yes	\$ 4,449	Nashua	Yes	\$ 26.23	\$ 117	Routine Miscellaneous Equipment purchase
Miscellaneous SCADA/Electrical	Miscellaneous SCADA/Electrical	n/a	DW17-183	26,101	2/2/2018	\$ 30,000	\$ 30,000	Yes	\$ -	Various	Yes	\$ 27.02	\$ -	
Miscellaneous SCADA/Electrical	Replace VFD, Pump #1 Bowers Landing	1916547	DW17-183	26,101	2/2/2018	\$ -	\$ -	Yes	\$ 2,118	Various	Yes	\$ 27.02	\$ 57	
WTP Structural/HVAC	WTP Structural/HVAC	n/a	DW17-183	26,101	2/2/2018	\$ 10,000	\$ 10,000	Yes	\$ -	Nashua	Yes	\$ 26.23	\$ -	
WTP Structural/HVAC	Replace Heat Exchanger, WTP Office	1917470	DW17-183	26,101	2/2/2018	\$ -	\$ -	Yes	\$ 8,328	Nashua	Yes	\$ 26.23	\$ 218	WTP Structural/HVAC project
Purchase new lab equipment	Purchase new lab equipment	n/a	DW17-183	26,101	2/2/2018	\$ 20,000	\$ 18,500	Yes	\$ -	Nashua	Yes	\$ 26.23	\$ -	Reduced by purchase of HACH DR 900 below
Purchase new lab equipment	HACH DR 900	1908450	DW17-183	26,101	2/2/2018	\$ -	\$ 1,500	Yes	\$ 1,435	Nashua	Yes	\$ 26.23	\$ 38	
Miscellaneous Fencing and Security projects	Miscellaneous Fencing and Security projects	n/a	DW17-183	26,101	2/2/2018	\$ 10,000	\$ 10,000	Yes	\$ -	Various	Yes	\$ 27.02	\$ -	
Miscellaneous Fencing and Security projects	WTP Perimeter Fence Carryover	1901608	DW17-183	26,101	2/2/2018	\$ -	\$ -	Yes	\$ 6,744	Various	Yes	\$ 27.02	\$ 182	
Purchase new vehicle for Water Supply Electrician.	Purchase of a new vehicle for the Water Supply Electrician.	1918314	DW17-183	26,101	2/2/2018	\$ -	\$ -	Yes	\$ 28,897	Nashua	No	\$ 26.23	\$ -	Unbudgeted. Made necessary due to the premature retirement of 2 dept. vehicles.
Replace Ferric Chloride Feed pump.	Replace Ferric Chloride Feed pump.	1901613	DW17-183	26,101	2/2/2018	\$ -	\$ -	Yes	\$ 1,713	Nashua	Yes	\$ 26.23	\$ 45	Pump rebuild was determined to be best course.
Carbon media changeout-filters 1 & 2.	Carbon media changeout-filters 1 & 2	1901614 & 1916780	DW17-183	26,101	2/2/2018	\$ 1,000,000	\$ 1,050,000	Yes	\$ 990,662	Nashua	Yes	\$ 26.23	\$ 25,985	New PFAS regulations require that all filter media be changed out to ensure compliance with the new PFOA standard which is slated to go into effect on October 1, 2019. Filter media replacement being staged over 6 month intervals. 8 of 12 filters to be replaced in 2019, remaining four filters to be replaced in Spring 2020.
Add 3rd pump at Main Dunstable Booster, replace 1 existing.	Add 3rd pump at Main Dunstable Booster, replace 1 existing.	n/a	DW17-183	26,101	2/2/2018	\$ 120,000	\$ -	Yes	\$ -	Nashua	Yes	\$ 26.23	\$ -	Addition of 3rd pump deferred or elminated until future date subject to performance of rebuilt 2nd pump.
Rebuild Main Dunstable pump #1	Rebuild Pump #1, Main Dunstable, Nashua	1901615	DW17-183	26,101	2/2/2018	\$ -	\$ -	Yes	\$ 15,995	Nashua	Yes	\$ 26.23	\$ 420	
Replace Kessler Farm booster pump package.	Replace 20 year old package booster station pumps and piping. Piping is steel which is beginning to pit.	n/a	DW17-183	26,101	2/2/2018	\$ 75,000	\$ 75,000	Yes	\$ -	Nashua	Yes	\$ 26.23	\$ -	Project deferred until 2020
Stump Pond Subwatershed assessment	Stump Pond Subwatershed assessment	n/a	0.1 DSRR			\$ 25,000	\$ 25,000	No	\$ -	Merrimack	No	\$ 28.86	\$ -	Study - Pay for with 0.1 DSRR
Stump Pond Stormwater BMP	Stump Pond Stormwater BMP	1908373	0.1 DSRR			\$ 20,000	\$ 20,000	No	\$ 1,310	Merrimack	No	\$ 28.86	\$ -	Study - Pay for with 0.1 DSRR
Public Education -Watershed signage	Public Education -Watershed signage	n/a	0.1 DSRR			\$ 20,000	\$ 20,000	No	\$ -	Merrimack	No	\$ 28.86	\$ -	Study - Pay for with 0.1 DSRR
Replace 2 Hach Turbidimeters and associated control module	Replace 2 Hach Turbidimeters and associated control module.	1901618	DW17-183	26,101	2/2/2018	\$ 10,000	\$ 10,000	Yes	\$ 7,978	Nashua	Yes	\$ 26.23	\$ 209	
Camera System Upgrade	Carryover Costs from 2018 Project.	1819073, 1900413	0.1 DSRR			\$ -	\$ 7,500	No	\$ 9,756	Nashua	Yes	\$ 26.23	\$ 256	Carry over costs from project completed in 2018, pay for with 0.1 DSRR.
Dredging Feasibility Study	Carryover Costs from 2018 study.	1807145, 1901939	0.1 DSRR			\$ -	\$ 24,600	No	\$ 39,520	Merrimack	No	\$ 28.86	\$ -	Study - Pay for with 0.1 DSRR
Source Water Protection Study	Carryover Costs from 2018 study.	1901740	0.1 DSRR			\$ -	\$ 12,000	No	\$ 11,000	Merrimack	No	\$ 28.86	\$ -	Study - Pay for with 0.1 DSRR
Aquatic Vegetation Assessment	Carryover Costs from 2018 study.	1807147, 1906080	0.1 DSRR			\$ -	\$ 4,200	No	\$ 9,545	Merrimack	No	\$ 28.86	\$ -	Study - Pay for with 0.1 DSRR
Fiber Conduit between WTP and Dist	Install Fiber Conduit between Water Treatment Plant and Distribution to eliminate ongoing Comcast Ethernet line to one of the buildings.	1901619	DW17-183	26,101	2/2/2018	\$ 40,000	\$ 40,000	Yes	\$ 22,896	Nashua	Yes	\$ 26.23	\$ 601	
Munis FER Enhancements	Munis FER Enhancements	n/a	DW17-183	26,101	2/2/2018	\$ 35,000	\$ 35,000	Yes	\$ -	Merrimack	No	\$ 28.86	\$ -	No upgrades enhancements will be completed in 2019.
Wireless Access Points for Main Office	Wireless Access Points for Main Office	n/a	DW17-183	26,101	2/2/2018	\$ 14,000	\$ -	Yes	\$ -	Merrimack	No	\$ 28.86	\$ -	Monies moved to Veeam Backup Project.
KVM for Data Center	Keyboard Video Mouse for Data Center so that multiple servers can be accessed by one console without having to move the Monitor/Keyboards/ Mouse connections each time.	n/a	DW17-183	26,101	2/2/2018	\$ 2,500	\$ -	Yes	\$ -	Merrimack	No	\$ 28.86	\$ -	
IOS Charging Station	Charging Station for multiple iPads to allow for upgrades across multiple devices concurrently.	n/a	DW17-183	26,101	2/2/2018	\$ 1,200	\$ -	Yes	\$ -	Merrimack	No	\$ 28.86	\$ -	
Digital Signage for Distribution	Digital Signage for Distribution allowing notices and schedules to be more prominently displayed.	1908376	0.1 DSRR	26,101	2/2/2018	\$ 2,000	\$ 1,270	No	\$ -	Merrimack	No	\$ 28.86	\$ -	
VDI Pilot	A pilot to determine whether a Virtual Desktop Infrastructure would be feasible for our environment.	n/a	DW17-183	26,101	2/2/2018	\$ 12,000	\$ -	Yes	\$ -	Merrimack	No	\$ 28.86	\$ -	
Misc Hardware	Misc Hardware	n/a	DW17-183	26,101	2/2/2018	\$ 20,000	\$ 20,000	Yes	\$ -	Merrimack	No	\$ 28.86	\$ -	
Misc Hardware	Mount in Vehicles	1908308	0.1 DSRR			\$ -	\$ -	No	\$ 1,248	Merrimack	No	\$ 28.86	\$ -	
Misc Hardware	2 iPad Pros for IS Testing	1908309	0.1 DSRR			\$ -	\$ -	No	\$ 2,298	Merrimack	No	\$ 28.86	\$ -	
Misc Software	Misc Software	n/a	DW17-183	26,101	2/2/2018	\$ 12,000	\$ 12,000	Yes	\$ -	Merrimack	No	\$ 28.86	\$ -	
Website upgrades	Website upgrades	n/a	DW17-183	26,101	2/2/2018	\$ 8,000	\$ 8,000	Yes	\$ -	Merrimack	No	\$ 28.86	\$ -	
Implement Customer Balances over the phone	Implement Customer Balances over the phone.	n/a	DW17-183	26,101	2/2/2018	\$ 4,000	\$ 25,500	Yes	\$ -	Merrimack	No	\$ 28.86	\$ -	Deferred
Click Resource Assistant	Allow for the moving of customer Appointment from an generic resource to a named resource.	1907952	0.1 DSRR			\$ -	\$ 22,828	No	\$ 22,828	Merrimack	No	\$ 28.86	\$ -	
Database Server License for GIS and other Apps	Purchase Server license for Virtual Environment.	1915920	DW17-183	26,101	2/2/2018	\$ -	\$ -	Yes	\$ 7,305	Merrimack	No	\$ 28.86	\$ -	Previously licensed software was not suitable for Virtual environment.
Veeam Backup Software	Replacement of existing backup software due to exorbitant vendor fees to keep original system running.	1909216	0.1 DSRR			\$ -	\$ 25,550	No	\$ 15,530	Merrimack	No	\$ 28.86	\$ -	
New RCO Manager Computer	New RCO Manager Computer	1917001	0.1 DSRR			\$ -		No	\$ 1,797	Merrimack	No	\$ 28.86	\$ -	Replace failed desktop computer.
Kessler Farm Tank Design	Kessler Farm Tank Design	1915117	0.1 DSRR	26,101	2/2/2018	\$ -		No	\$ 36,355	Nashua	No	\$ 26.23	\$ -	Engineering for tank to be constructed in 2020.
Retainage	Payment of Retainage for projects that were used and useful in 2018.		DW17-183	26,101	2/2/2018	\$ -	\$ -	Yes	\$ 33,586	Merrimack	No	\$ 28.86	\$ -	Retainage paid in 2019 for 2018 QCPAC projects.
Short term interest on the PWW Fixed Asset Line of Credit.	Capitalized interest incurred on FALOC draws to fund 2019 Capex from 1/1/2019 thru 4/2/2020.		DW17-183	26,101	2/2/2018	\$ -	\$ -	Yes	\$ 230,645	Various	No		\$ -	
Performance Management Platform Implementation & Technical Integration	Performance Management Platform Implementation & Technical Integration	1916551	DW17-183	26,101	2/3/2018	\$ -	\$ -	Yes	\$ 13,804	Merrimack	No	\$ 28.86	\$ -	
Papercut MF Software for copiers	Papercut MF Software for copiers	1918363	DW17-183	26,101	2/3/2018	\$ -	\$ -	Yes	\$ 3,708	Merrimack	No	\$ 28.86	\$ -	
Pennichuck Water Works Projected 2019 Total Capital Expenditure Budget -						\$ 14,968,170	\$ 16,902,524		\$ 15,801,867	Projected Property Tax Expense associated		\$ 416,593		

1. Tax rate is the sum of the local community rate plus the Statewide Utility tax rate of \$6.60/\$1000
2. Projects funded by 0.1 DSRR funds are not QCPAC eligible because the cash to fund these projects is not bonded. Total 2019 Capex to be funded by 0.1 DSRR funds -
3. Portion of Annual Principal and interest payments for debt associated with plant placed in service between 1/1/2019 and 12/31/2019 based on a
4. QCPAC Principal and Interest expenses for DWGTF financing for the North West System improvements are based on a
5. QCPAC Principal and Interest expenses for DWGTF financing for the Merrimack River Intake are based on a

12/31/2019				
\$	427,640	The 12/31/2019 0.1 DSRR amount has been increased by		
		to reflect the Staff DR21 response indicating that		\$ 21,175
		of the project costs being funded with DWGTF is being funded with 0.1 DSRR monies.		
30	year bond with an actual total all in interest rate of	4.261869%	resulting in annual P&I expenses of	\$ 427,022
30	year bond with interest rate of	2.704%	resulting in annual P&I expenses of	\$ 140,376
30	year bond with interest rate of	3.380%	resulting in annual P&I expenses of	\$ 287,045

Project Name/Description	Project Description	Work Order #	Financing Docket No.	NHPUC Order No.	Date of NHPUC Order	Board Approved 2020 Capex Budget	QCPAC Eligible?	Estimated Project Cost as of 11/30/2020	Final Project cost as of 12/31/2020	Community	Taxable	2020 Tax Rate (l)	QCPAC Eligible Property Tax Expense	Explanation for Change/Addition/Deletion from Board Approved 2020 Capex Budget
New Services (10)	Single Family, Owner Build, New Homes	20 workorders	DW17-183	26,101	2/2/2018	\$ 50,000	Yes	\$ 31,090	\$ 36,746	Various	Yes	\$ 28.45	\$ 1,045	6 new services through 12/31/20.
Renewed Services (20)	Replacement of failed services.	workorders	DW17-183	26,101	2/2/2018	\$ 110,000	Yes	\$ 68,052	\$ 68,052	Various	Yes	\$ 28.45	\$ 1,936	19 Renewed Services Installed through 12/31/2020.
Hydrants (10)	Replacement of non-functional hydrants (Run rate) (8 YTD)	30 & 31 workorders	DW17-183	26,101	2/2/2018	\$ 60,000	Yes	\$ 48,000	\$ 41,401	Various	Yes	\$ 28.45	\$ 1,178	9 Hydrants Repaired/Replaced through 12/31/2020.
Gates (10)	Replacement of Failed Gate Valves	12 & 13 workorders	DW17-183	26,101	2/2/2018	\$ 40,000	Yes	\$ 40,000	\$ 43,189	Various	Yes	\$ 28.45	\$ 1,229	12 Gates Repaired/Replaced through 12/31/2020.
Radios (560)	Replacement of out of Warrantee Failed Radios (280), New Meters for new customers (280).	54 workorders	DW17-183	26,101	2/2/2018	\$ 58,000	Yes	\$ 51,000	\$ 50,832	Various	Yes	\$ 28.45	\$ 1,446	498 Radios Installed/Replaced through 12/31/2020.
Meters (Growth) 5/8"-2" - Core & CWS (280)	Meters (Growth) 5/8"-2" - Core & CWS (280)	50 workorders	DW17-183	26,101	2/2/2018	\$ 29,000	Yes	\$ 96,000	\$ 94,393	Various	Yes	\$ 28.45	\$ 2,686	631 Meters Installed/Replaced through 12/31/2020.
Meters 5/8"-6" - Replace failed meters - Core & CWS (200)	Meters 5/8"-6" failed meters - Core & CWS (200)	50 workorders	DW17-183	26,101	2/2/2018	\$ 21,000	Yes			Various	Yes	\$ 28.45	\$ -	Total included in row above.
Replace Mud sucker pump	Replace 15+ year old ditch pump.	2005200	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 6,356	\$ 6,356	Various	Yes	\$ 28.45	\$ 181	
Replacement Utility Truck	Replacement for #47 - 2006 Ford f-350, 130K miles Does not pass inspection.	2006391	DW17-183	26,101	2/2/2018	\$ 70,000	Yes	\$ 70,000	\$ 66,969	Merrimack	No	\$ 28.52	\$ -	
Replacement Utility Truck	Replacement for #76 - 2008 Ford F-350, 150K miles, Does not pass inspection.	2006390	DW17-183	26,101	2/2/2018	\$ 70,000	Yes	\$ 70,000	\$ 68,951	Merrimack	No	\$ 28.52	\$ -	
Replacement Utility Truck	Replacement for #4- 2010 Ford F-350, 140K miles Does not pass inspection.	2006389	DW17-183	26,101	2/2/2018	\$ 70,000	Yes	\$ 7,000	\$ 68,429	Merrimack	No	\$ 28.52	\$ -	
Valve Turner & Vac Truck	Replacemnt for #60 - 14 Year Vac Trailer w/excessive rot, will not pass inspection.	n/a	DW17-183	26,101	2/2/2018	\$ 160,000	Yes	\$ -		Merrimack	No	\$ 28.52	\$ -	Deferred. Not avialable due to impact of COVID19 on manufacturing.
Foreman's Truck	Replacement for #59 - 2011 International, 120K Miles, High Hours, Electrical, body issues.	2004436	DW17-183	26,101	2/2/2018	\$ 140,000	Yes	\$ 140,000	\$ 79,206	Merrimack	No	\$ 28.52	\$ -	Deferred until 2020.
Locker Room Benches @ Distribution Facility	Permanent Benches for Male & Female locker rooms.	n/a	DW17-183	26,101	2/2/2018	\$ 7,500	Yes	\$ -		Merrimack	Yes	\$ 28.52	\$ -	Deferred until 2021 due to COVID19 delays.
Locker Room Deep Wash Sinks	Deep stainless wash sinks to replace existing sinks in male & female locker rooms.	n/a	DW17-183	26,101	2/2/2018	\$ 7,500	Yes	\$ -		Merrimack	Yes	\$ 28.52	\$ -	Deferred until 2021 due to COVID19 delays.
Office Space for Const & Maint Supervisor	Permanent office space for Contruction & Maintenance Supervisor.	n/a	DW17-183	26,101	2/2/2018	\$ 12,000	Yes	\$ -		Merrimack	Yes	\$ 28.52	\$ -	Deferred until 2020 due to COVID19 delays.
Landscape improvements	Repair Hill Sides @ 16 DWH and overseed with erosion mix.	2008276	DW17-183	26,101	2/2/2018	\$ 12,000	Yes	\$ 12,550	\$ 15,350	Merrimack	Yes	\$ 28.52	\$ 438	
Automatic Entrance Gate @ Distribution Facility	Replace manual gate @ Distribution facility with automatic gate.	2000718	0.1 DSRR			\$ 10,000	No	\$ -	\$ 3,083	Merrimack	Yes	\$ 28.52	\$ 88	Work delayed on long range gate reader until 2021, due to COVID19.
Emergency Gas Detection Meters	Emergency Gas Detection Meters	2006033	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 10,411	\$ 10,411	Merrimack	Yes	\$ 28.52	\$ 297	Replace existing failed trintector.
Replacement Equipment/Excavator Trailer	Replacement Equipment/Excavator Trailer	2007566	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 19,457	\$ 17,917	Merrimack	No	\$ 28.52	\$ -	
Buyout Lease of HP T2530PS Large Format Printer (OPS)	Buyout Lease of HP T2530PS Large Format Printer (OPS).	2008268	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 6,994	\$ 4,995	Merrimack	No	\$ 28.52	\$ -	
West Hollis Street Check Valve Pit	Install at the intersection of W. Hollis St and Panther Dr.	n/a	DW17-183	26,101	2/2/2018	\$ 88,000	Yes	\$ -		Nashua	Yes	\$ 27.13	\$ -	Deferred
NWS Improvements - Manchester Street	Install 1700 LF of 24 inch DI and new Fencing.	2000383	DWGTF			\$ 125,000	Yes	\$ 86,000	\$ 85,059	Nashua	Yes	\$ 27.13	\$ 2,308	
NWS Improvements - Deerwood Dr. Northwest Blvd Loop	Add 3400 LF of 20 inch HDPE including RR pipe jacking.	2000386	DWGTF			\$ 40,000	Yes	\$ 18,500	\$ 19,576	Nashua	Yes	\$ 27.13	\$ 531	
NWS Improvements Veteran's Rd/Route 101A Loop	Add 2200 LF of 12 inch DIPCL to close two loop major dead ends.	2000384	DWGTF			\$ 125,000	Yes	\$ 125,000	\$ 125,566	Nashua	Yes	\$ 27.13	\$ 3,407	
NWS Improvements Tinker Road Paving and restoration	NWS Improvements Tinker Road Paving and restoration.	2000385	DWGTF			\$ 125,000	Yes	\$ 126,000	\$ 125,458	Nashua	Yes	\$ 27.13	\$ 3,404	
Simon & Will Street - Paving	Simon & Will Street - Paving	2000387	DW17-183	26,101	2/2/2018	\$ 30,000	Yes	\$ -		Nashua	Yes	\$ 27.13	\$ -	Deferred
Garden Street - Final Paving	Garden Street - Final Paving	2000388	DW17-183	26,101	2/2/2018	\$ 18,000	Yes	\$ -		Nashua	Yes	\$ 27.13	\$ -	Deferred
City of Nashua Sewer - Lake Street	Replace 2950 LF of 6 inch CI with 12 inch DIPCL (Paving).	2000378	DW17-183	26,101	2/2/2018	\$ 30,000	Yes	\$ -	\$ 10,589	Nashua	Yes	\$ 27.13	\$ 287	
Merrimack River Intake	Year Round Raw Water Intake from Merrimack River	2000380	DWGTF Financing DW19-026	26,247	5/3/2019	\$ 140,375	Yes	\$ 192,109	\$ 140,375	Merrimack	Yes	\$ 28.52	\$ 4,003	Amount of MRI raw water intake funds still avialable from DWGTF.
Merrimack River Intake	Year Round Raw Water Intake from Merrimack River	2000380	DW17-183	26,101	2/2/2018	\$ 221,625	Yes	\$ 260,000	\$ 253,590	Merrimack	Yes	\$ 28.52	\$ 7,232	Project cost increased by \$80,000 to develop Source Water Protection plan required by NHDES.
Replace Kessler Farm booster pump package	Replace 31 year old package booster station pumps and piping.	2000389	DW17-183	26,101	2/2/2018	\$ 75,000	Yes	\$ 188,000	\$ 190,901	Nashua	Yes	\$ 27.13	\$ 5,179	Budget to be increased as a portion of site work for the Kessler Farm Tank was transferred to this project. Winning project bid was higher than engineer's estimate.
Risk and Resilience Assessment and Emergency Response Plan	Complete Risk and Resilience Assessment and Emergency Response Plan as required by the USEPA.	2002053	DW17-183	26,101	2/2/2018	\$ 120,000	Yes	\$ 120,000	\$ 117,274	Various	No	\$ 28.45	\$ -	
Asset Management - GIS QA/QC ahead of NEW CMMS	GIS QA/QC Ahead of NEW CMMS	1900414, 2000362	DW17-183	26,101	2/2/2018	\$ 40,000	Yes	\$ 40,000	\$ 56,448	Merrimack	Yes	\$ 28.52	\$ 1,610	
Brook Street (Lake St Area PH2)	Replace 225 LF of 4 inch and 915 LF of 6 inch CI with 1140 LF of 8 inch DIPCL.	1502511, 2003423	DW17-183	26,101	2/2/2018	\$ 380,000	Yes	\$ 276,000	\$ 257,109	Nashua	Yes	\$ 27.13	\$ 6,975	Restoration work slated for 2021 was completed in 2020.
Hamilton Street (Lake St Area PH2)	Replace 410 LF of 6 inch CI with 4 inch DIPCL.	1502512, 2003422	DW17-183	26,101	2/2/2018	\$ 87,000	Yes	\$ 137,000	\$ 126,068	Nashua	Yes	\$ 27.13	\$ 3,420	
Burritt Street (Lake St Area PH2)	Replace 425 LF of 4 inch CI with 8 inch DIPCL.	1502513, 2003420	DW17-183	26,101	2/2/2018	\$ 141,000	Yes	\$ 146,800	\$ 134,733	Nashua	Yes	\$ 27.13	\$ 3,655	
Burritt Street (Lake St Area PH2)	Replace 125 LF of 4 inch CI with 4 inch DIPCL.	n/a	DW17-183	26,101	2/2/2018	\$ 38,000	Yes	\$ -		Nashua	Yes	\$ 27.13	\$ -	Included in row above.
Verona Street (Lake St Area PH2)	Replace 675 LF of 6 inch CI with 8 inch DIPCL.	2007542	DW17-183	26,101	2/2/2018	\$ 226,000	Yes	\$ 205,100	\$ 182,847	Nashua	Yes	\$ 27.13	\$ 4,961	Required the use of temporary main that was not initially part of the design.
Sarasota Ave (Lake St Area PH2)	Replace 250 LF of 6 inch CI with 8 inch DIPCL.	n/a	DW17-183	26,101	2/2/2018	\$ 83,000	Yes	\$ 70,000		Nashua	Yes	\$ 27.13	\$ -	
Amherst Dodge Rd Watermain Abandonment	Abandon Approx. 700 LF of AC Main, Transfer 2 services & 1 Hyd to parallel 8" DIPCL water main.	2001229	DW17-183	26,101	2/2/2018	\$ 20,000	Yes	\$ 146,000	\$ 149,710	Amherst	No	\$ 32.93	\$ -	Scope of job expanded to replace multiple broken or leaking valves discovered during the shutdown process.
Kessler Farm Tank Replacement	Replaced 4 MG painted steel water tank with 4 MG prestressed, precast water tank.	2000379	0.1 DSRR			\$ 3,388,000	No	\$ 60,000	\$ 65,161	Nashua	No	\$ 27.13	\$ -	Design only. Construction deferred until 2021.
Replace Engineering Pickup	2020 Ford Escape SE - Replace Vehicle #101	2006652	DW17-183	26,101	2/2/2018	\$ 35,000	Yes	\$						

Project Name/Description	Project Description	Work Order #	Financing Docket No.	NHPUC Order No.	Date of NHPUC Order	Board Approved 2020 Capex Budget	QCPAC Eligible?	Estimated Project Cost as of 11/30/2020	Final Project cost as of 12/31/2020	Community	Taxable	2020 Tax Rate (l)	QCPAC Eligible Property Tax Expense	Explanation for Change/Addition/Deletion from Board Approved 2020 Capex Budget
Harris Dam raise earthen embankment, raise dike wall	Harris Dam raise earthen embankment, raise dike wall.	n/a	DW17-183	26,101	2/2/2018	\$ 965,000	Yes	\$ -		Nashua/Merrimack	Yes	\$ 27.83	\$ -	Deferred until 2021, Engineering services in 2020, See Row 72.
Misc. Structural Improvements	Misc. Structural Improvements	n/a	DW17-183	26,101	2/2/2018	\$ 20,000	Yes	\$ -		Various	Yes	\$ 28.52	\$ -	
Misc. Structural Improvements	Replace Fire Alarm System Control Boards - Damaged by Lightning Strike.	2006032	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 15,120	\$ 14,242	Nashua	Yes	\$ 27.13	\$ 386	
Misc. Structural Improvements	Replace Maple Haven Pump Station Rood.	2008269	DW17-183	26,101	2/2/2018		Yes	\$ 4,235	\$ 5,170	Derry	Yes	\$ 29.06	\$ 150	
Miscellaneous Equipment Purchased	Miscellaneous Equipment Purchased	n/a	DW17-183	26,101	2/2/2018	\$ 17,500	Yes	\$ -		Nashua	Yes	\$ 27.13	\$ -	
Miscellaneous Equipment Purchased	Replace Sewage Ejection Pump, Snow Station	2003515	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 3,300	\$ 3,287	Nashua	Yes	\$ 27.13	\$ 89	
Miscellaneous Equipment Purchased	WTP Replace Filter-to-Waste Valve	1918552	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 2,353	\$ 2,353	Nashua	Yes	\$ 27.13	\$ 64	This was in 2019 budget, but did not go useful until 2020.
Miscellaneous Equipment Purchased	Replace Sludge Pump #2, WTP.	2004525	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 3,410	\$ 3,406	Various	Yes	\$ 28.52	\$ 97	
Miscellaneous SCADA/Electrical	Miscellaneous SCADA/Electrical	n/a	DW17-183	26,101	2/2/2018	\$ 30,000	Yes	\$ -		Various	Yes	\$ 28.52	\$ -	
Miscellaneous SCADA/Electrical	Replace VFD, Pump #3 - High Pines Booster	2003512	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 9,500	\$ 9,523	Nashua	Yes	\$ 27.13	\$ 258	
Miscellaneous SCADA/Electrical	Install cellular SCADA device, HI and LO, Derry.	2004180	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 2,500	\$ 2,354	Derry	Yes	\$ 27.02	\$ 64	
Miscellaneous SCADA/Electrical	SCADA control system, Powder Hill, Donald St.	2004989	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 9,500		Bedford	Yes	\$ 27.02	\$ -	Deferred
Miscellaneous SCADA/Electrical	Replace Intermediate Pump 3, VFD at WTP.	2008126	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 5,500		Nashua	Yes	\$ 27.13	\$ -	Deferred
Rebuild NWS booster pump #2	Rebuild NWS booster pump #2.	2003436	DW17-183	26,101	2/2/2018	\$ 40,000	Yes	\$ 50,000	\$ 43,464	Nashua	Yes	\$ 27.13	\$ 1,179	
WTP Structural/HVAC	WTP Structural/HVAC	n/a	DW17-183	26,101	2/2/2018	\$ 10,000	Yes	\$ -		Nashua	Yes	\$ 27.13	\$ -	
Purchase new lab equipment	Purchase new lab equipment.	n/a	DW17-183	26,101	2/2/2018	\$ 20,000	Yes	\$ 5,000		Nashua	Yes	\$ 27.13	\$ -	
Miscellaneous Fencing and Security projects	Miscellaneous Fencing and Security projects	n/a	DW17-183	26,101	2/2/2018	\$ 10,000	Yes	\$ -		Various	Yes	\$ 27.13	\$ -	
Replace Vehicle 200	Replace Vehicle 200	2007616	DW17-183	26,101	2/2/2018	\$ 40,000	Yes	\$ 35,000	\$ 31,949	Nashua	No	\$ 27.13	\$ -	
Replace Vehicle 201	Replace Vehicle 201	2004137	DW17-183	26,101	2/2/2018	\$ 55,000	Yes	\$ 55,000	\$ 53,062	Nashua	No	\$ 27.13	\$ -	
Replace Vehicle 63	Replace Vehicle 63	n/a	DW17-183	26,101	2/2/2018	\$ 40,000	Yes	\$ -		Nashua	No	\$ 27.13	\$ -	Deferred
Repair/Replace Soffit and Fascia, Boat House Bldg.	Repair/Replace Soffit and Fascia, Boat House Bldg.	n/a	DW17-183	26,101	2/2/2018	\$ 30,000	Yes	\$ -		Nashua	Yes	\$ 27.13	\$ -	No contractors available. Deferred until 2021.
Carbon media changeout-filters 5 & 6	Carbon media changeout-filters 5 & 6.	2003490	DW17-183	26,101	2/2/2018	\$ 500,000	Yes	\$ 450,000	\$ 495,331	Nashua	Yes	\$ 27.13	\$ 13,438	
Install new Day Fuel Tank, Controller and related equip., FWPS Generator	Install new Day Fuel Tank, Controller and related equip., FWPS Generator.	n/a	DW17-183	26,101	2/2/2018	\$ 75,000	Yes	\$ -		Nashua	Yes	\$ 27.13	\$ -	Deferred until 2021. Project scope being evluated under new code.
SCADA PLC Replacements	SCADA PLC Replacements	n/a	DW17-183	26,101	2/2/2018	\$ 75,000	Yes	\$ -		Nashua	Yes	\$ 27.13	\$ -	Deferred until 2021.
Replace 2 Hach Turbidimeters and associated control module	Replace 2 Hach Turbidimeters and associated control module.	2007545	DW17-183	26,101	2/2/2018	\$ 10,000	Yes	\$ 18,000	\$ 16,929	Nashua	Yes	\$ 27.13	\$ 459	Changed from 2 to 4 units.
Rebuild Merrimack River pump #2	Rebuild Merrimack River pump #2.	2008305	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 93,100	\$ 93,090	Merrimack	Yes	\$ 28.86	\$ 2,687	
Supply Pond Dam Modifications per NHDES LOD	Engineering, Permitting, Design Services	2008270	0.1 DSRR			\$ -	No	\$ 69,000		Merrimack/Nashua	No	\$ 27.55	\$ -	Engineering Design Work only
Harris Dam Raise Earthen Embankment, Dike wall	Engineering, Permitting, Design Services	2008271	0.1 DSRR			\$ -	No	\$ 90,000		Merrimack/Nashua	No	\$ 27.55	\$ -	Engineering Design Work only
Munis FER Enhancements	Munis FER Enhancements	n/a	DW17-183	26,101	2/2/2018	\$ 35,000	Yes	\$ 35,000		Merrimack	No	\$ 28.52	\$ -	
Misc Hardware	Misc Hardware	n/a	DW17-183	26,101	2/2/2018	\$ 20,000	Yes	\$ 1,500		Merrimack	No	\$ 28.52	\$ -	
Misc Hardware	Laptop Purchase for Regulatory Department - JK	2001987	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 1,660	\$ 1,397	Merrimack	No	\$ 28.52	\$ -	Purchase to accommodate work from home created by COVID19.
Misc Hardware	Laptop Purchase for Regulatory Department - CAH	2002761	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 1,400	\$ 1,397	Merrimack	No	\$ 28.52	\$ -	Purchase to accommodate work from home created by COVID19.
Misc Hardware	Laptop Purchase for onboarding employees (5)	2002930	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 9,995	\$ 9,913	Merrimack	No	\$ 28.52	\$ -	Purchase to accommodate work from home created by COVID19.
Misc Hardware	Laptop Purchase for New Employee C. Harding	2005120	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 2,491	\$ 2,491	Merrimack	No	\$ 28.52	\$ -	Purchase to accommodate work from home created by COVID19.
Misc Hardware	Spare Laptop Purchase	2005238	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 1,005	\$ 1,005	Merrimack	No	\$ 28.52	\$ -	Purchase to accommodate work from home created by COVID19.
Misc Hardware	New Laptop for Accounting new hire - Payroll Admin	2006388	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 1,160	\$ 1,160	Merrimack	No	\$ 28.52	\$ -	Purchase to accommodate work from home created by COVID19.
Misc Software	Misc Software	n/a	DW17-183	26,101	2/2/2018	\$ 12,000	Yes	\$ -		Merrimack	No	\$ 28.52	\$ -	
Misc Software	Macola Development Environment for testing upgrade.	2002276	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 5,280	\$ 6,400	Merrimack	No	\$ 28.52	\$ -	
Misc Software	Tyler Notify	2003317	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 3,840	\$ 3,024	Merrimack	No	\$ 28.52	\$ -	
Misc Software	MSL Server License for Munis Upgrade	2005976	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 6,350		Merrimack	No	\$ 28.52	\$ -	Deferred
Website upgrades	Website upgrades	n/a	DW17-183	26,101	2/2/2018	\$ 8,000	Yes	\$ -		Merrimack	No	\$ 28.52	\$ -	
Salmon Replacement at WTP	The server at WTP is over 7 years old and should be replaced. I am recommending to replace the server with a VM host for ease of use and reliability.	2003704	DW17-183	26,101	2/2/2018	\$ 15,000	Yes	\$ 15,000	\$ 9,366	Merrimack	No	\$ 28.52	\$ -	
Additional UPS for Distribution Data Center	We are starting to leverage this datacenter more with more equipment. The current UPS is over subscribed and we need to protect everything in there.	2003493	DW17-183	26,101	2/2/2018	\$ 1,600	Yes	\$ 1,600	\$ 2,060	Merrimack	No	\$ 28.52	\$ -	
Meraki Wireless AP's for WTP	The current AP's at WTP are tied into the wireless at HQ. We will be changing to the Maraki solution for HQ so these will need to be replaced.	2003426	DW17-183	26,101	2/2/2018	\$ 3,000	Yes	\$ 3,000	\$ 3,252	Merrimack	No	\$ 28.52	\$ -	
Storage Replacement for PS6110 Array	Nimble addon shelf – 33tb usable	2003425	DW17-183	26,101	2/2/2018	\$ 57,000	Yes	\$ 30,000	\$ 16,145	Merrimack	No	\$ 28.52	\$ -	
Veeam Backup of O365	Backup documents stored in the cloud within Office 365.	n/a	DW17-183	26,101	2/2/2018	\$ 2,000	Yes	\$ 2,000		Merrimack	No	\$ 28.52	\$ -	
Client Remote Control Software	5 licenses	n/a	DW17-183	26,101	2/2/2018	\$ 1,300	Yes	\$ 1,300		Merrimack	No	\$ 28.52	\$ -	
CMMS replacment project	Replace Synergen/WAM with newer more cost effective/improved functionality system.	2000368	DW17-183	26,101	2/2/2018	\$ 600,000	Yes	\$ 450,000	\$ 433,263	Nashua	Yes	\$ 27.13	\$ 11,754	Project implementation has been slowed due to COVID19. Project \$\$ not used in 2020 will carry over into 2021.
New Building	New Building	2001988	0.1 DSRR			\$ 78,300	No	\$ 140,000	\$ 610,337	Nashua	Yes	\$ 27.13	\$ 16,558	
New Building - Server Room Networking	Routers/Switches/Racks/Patch Panels	2100047	0.1 DSRR			\$ 19,000	No	\$ 12,800	\$ 14,888	Nashua	Yes	\$ 27.13	\$ 404	
New Building - Phone System	Replacement of existing Phone sytem. New system will not work with existing hardware.	2100043	0.1 DSRR			\$ 70,000	No	\$ 60,000	\$ 77,830	Nashua	Yes	\$ 27.13	\$ 2,112	
JAMF - IOS mobile Management	Software configuration support for JAMF product.	2004171	DW17-183	26,101	2/2/2018	\$ 6,000	Yes	\$ 6,000	\$ 5,400	Merrimack	No	\$ 28.52	\$ -	
Document Management	Software to allow for document tracking and flow management (Accounting).	n/a	DW17-183	26,101	2/2/2018	\$ 8,000	Yes	\$ -		Merrimack	No	\$ 28.52	\$ -	
Click Software move to MS sql	Move Click Database from Oracle to MS sql in order to retire Oracle after the WAM replacement project is complete.	2003421	DW17-183	26,101	2/2/2018	\$ 45,000	Yes	\$ 19,500	\$ 140,012	Merrimack	No	\$ 28.52	\$ -	
Lemon Street, Final Restoration	2020 Carryover Costs	2000693	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 1,500	\$ 1,500	Nashua	Yes	\$ 27.13	\$ 41	Not included in approved 2020 Budget.
Lowell Street, Final Restoration	2020 Carryover Costs	2000694	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 2,500		Nashua	Yes	\$ 27.13	\$ -	Not included in approved 2020 Budget.
West Pearl Street, Final Restoration	2020 Carryover Costs	2000695	DW17-183	26,101	2/2/2018	\$ -	Yes	\$ 12,750	\$ 12,750	Nashua	Yes	\$ 27.13	\$ 346	Not included in approved 2020 Budget.
Retainage	Paid out in 2020 on retainage held on													

Project Name/Description	Project Description	Work Order #	Financing Docket No.	NHPUC Order No.	Date of NHPUC Order	Board Approved 2020 Capex Budget	QCPAC Eligible?	Estimated Project Cost as of 11/30/2020	Final Project cost as of 12/31/2020	Community	Taxable	2020 Tax Rate (1)	QCPAC Eligible Property Tax Expense	Explanation for Change/Addition/Deletion from Board Approved 2020 Capex Budget
	Northwest System Improvements DWG/TF Terms -	30	Years @	2.704%		\$ 20,371		\$ 17,450	\$ 17,458					

1. Tax rate is the sum of the local community rate plus the Statewide Utility tax rate of \$6.60/\$1000.

Project Name/Description	Project Description	Work Order #	Financing Docket No.	NHPUC Order No.	Date of NHPUC Order	Approved Budgeted Amount	QCPAC Eligible?	Community	Taxable	Tax Rate (1)	QCPAC Eligible Property Tax Expense	Explanation for Change/Addition/Deletion since Feb 2021 Filing
Foreman Truck	Upfit of Foreman's Truck body at JC Madigans.			0.1 DSRR		\$ 61,000	No	Merrimack	Yes	\$ 28.52	\$ 1,740	
2021 New Services (10)	Single Family, Owner Build, New Homes		DW20-157	Awaiting Approval		\$ 50,000	Yes	Various	Yes	\$ 28.45	\$ 1,423	
2021 Renewed Services (20)	Replacement of Failed Services		DW20-157	Awaiting Approval		\$ 110,000	Yes	Various	Yes	\$ 28.45	\$ 3,130	
2021 Hydrants (15)	Replacement of non-functional hydrants		DW20-157	Awaiting Approval		\$ 90,000	Yes	Various	Yes	\$ 28.45	\$ 2,561	
2021 Gates (10)	Replacement of Failed Gate Valves		DW20-157	Awaiting Approval		\$ 40,000	Yes	Various	Yes	\$ 28.45	\$ 1,138	
2021 Radios (4250)	Yr 1 of 7 Replacement of all PWW Radios installed in 2007 (4000), New Radios for new customers (250).		DW20-157	Awaiting Approval		\$ 425,000	Yes	Various	Yes	\$ 28.45	\$ 12,092	
2021 Meters (Growth) 5/8"-2" - Core & CWS (TBD)	New meters for new customers (250). Replacement of failed meters(250).		DW20-157	Awaiting Approval		\$ 50,000	Yes	Various	No	\$ 28.45	\$ -	
Replacement Utility Truck	Replacement for Truck #83 - 2011 F350, 110K miles, High maint costs & lots of body rust/rot.		DW20-157	Awaiting Approval		\$ 70,000	Yes	Merrimack	No	\$ 28.52	\$ -	
Replacement Utility Truck	Replacement for Truck #9 - 2014 F350, 110K Miles, High maint costs & significant rust.		DW20-157	Awaiting Approval		\$ 70,000	Yes	Merrimack	No	\$ 28.52	\$ -	
Replacement Full Size Pickup	Replacement for Truck #95 - 2008 Ford Ranger 110K miles did not pass inspection.		DW20-157	Awaiting Approval		\$ 45,000	Yes	Merrimack	No	\$ 28.52	\$ -	
Replacement Full Size Pickup	Replacement for Truck # 20 - 2008 Ford Ranger 135K miles did not pass inspection.		DW20-157	Awaiting Approval		\$ 45,000	Yes	Merrimack	No	\$ 28.52	\$ -	
Replacement SUV - Meter Reading	Replacement for vehicle #21 - 2013 Chevy Equinox 135k miles, high maint costs & suspension issues.		DW20-157	Awaiting Approval		\$ 35,000	Yes	Merrimack	No	\$ 28.52	\$ -	
Landscape Improvements	Irrigation system, loam & seed area at front of Distribution Building.		DW20-157	Awaiting Approval		\$ 15,000	Yes	Merrimack	Yes	\$ 28.52	\$ 428	
Replacement Valve/vac trailer	Replacement for # 96 - 2010 EHWA Valvemate - Valve Turner not functional and cannot get parts.		DW20-157	Awaiting Approval		\$ 65,000	Yes	Merrimack	No	\$ 28.52	\$ -	
Replacement Equipment Trailer	Replacement for # 53 - 14' BigTex Trailer - Excessive rust & rot and safety issues.		DW20-157	Awaiting Approval		\$ 7,500	Yes	Merrimack	No	\$ 28.52	\$ -	
Protectus Meter Upgrade	Protectus Meter Upgrade		DW20-157	Awaiting Approval		\$ 22,000	Yes	Nashua	Yes	\$ 27.13	\$ 597	
Valve Turner & Vac Truck	Replacemnt for #60 - 15 Year Vac/Valve Trailer with excessive rot, will not pass inspection.		DW20-157	Awaiting Approval		\$ 200,000	Yes	Merrimack	No	\$ 28.52	\$ -	
Office Space for Const & Maint Supervisor	Permanent office space for Contruction & Maintenance Supervisor		DW20-157	Awaiting Approval		\$ 15,000	Yes	Merrimack	Yes	\$ 28.52	\$ 428	
Locker Room Deep Wash Sinks	Deep stainless wash sinks to replace existing sinks in male & female locker rooms.		DW20-157	Awaiting Approval		\$ 10,000	Yes	Merrimack	Yes	\$ 28.52	\$ 285	
Locker Room Benches	Permanent Benches for Male & Female locker rooms.		DW20-157	Awaiting Approval		\$ 7,500	Yes	Merrimack	Yes	\$ 28.52	\$ 214	
Brook Street	Replace 225 LF of 4 inch and 915 LF of 6 inch CI with 1140 LF of 8 inch DIPCL.		DW20-157	Awaiting Approval		\$ 103,000	Yes	Nashua	Yes	\$ 27.13	\$ 2,794	
Hamilton Street	Replace 410 LF of 6 inch CI with 4 inch DIPCL.		DW20-157	Awaiting Approval		\$ 33,000	Yes	Nashua	Yes	\$ 27.13	\$ 895	
Burritt Street	Replace 425 LF of 4 inch CI with 8 inch DIPCL.		DW20-157	Awaiting Approval		\$ 24,000	Yes	Nashua	Yes	\$ 27.13	\$ 651	
Burritt Street	Replace 125 LF of 4 inch CI with 4 inch DIPCL.		DW20-157	Awaiting Approval		\$ 12,000	Yes	Nashua	Yes	\$ 27.13	\$ 326	
Verona Street	Replace 675 LF of 6 inch CI with 8 inch DIPCL.		DW20-157	Awaiting Approval		\$ 56,000	Yes	Nashua	Yes	\$ 27.13	\$ 1,519	
Sarasota Ave	Replace 250 LF of 6 inch CI with 8 inch DIPCL.		DW20-157	Awaiting Approval		\$ 24,000	Yes	Nashua	Yes	\$ 27.13	\$ 651	
Merrimack River Pumping Station	Add third 350 horsepower pump with electrical and Structural Improvements.		DW20-157	Awaiting Approval		\$ 140,000	Yes	Merrimack	Yes	\$ 28.52	\$ 3,993	
Kessler Farm Tank Replacement	Replaced 4 MG painted steel water tank with 4 MG prestressed, precast water tank.		DW20-157	Awaiting Approval		\$ 4,000,000	Yes	Nashua	Yes	\$ 27.13	\$ 108,520	
Coburn Woods (all side streets)	Replace 4400 LF of 2 inch PVC with 4 inch DIPCL.		DW20-157	Awaiting Approval		\$ 1,855,000	Yes	Nashua	Yes	\$ 27.13	\$ 50,326	
Merrimack River Intake	Merrimack River Intake Modified Source Water Protection Plan			0.1 DSRR		\$ 30,000	No	Merrimack	No	\$ 28.52	\$ -	
Balcom Street	Replace 1240 LF 6 inch CI with 1240 LF 8 inch DIPCL.		DW20-157	Awaiting Approval		\$ 294,000	Yes	Nashua	Yes	\$ 27.13	\$ 7,976	
Euclid Avenue	Replace 425 LF 6 inch CI with 425LF 8 inch DIPCL.		DW20-157	Awaiting Approval		\$ 100,000	Yes	Nashua	Yes	\$ 27.13	\$ 2,713	
Sweet Hill Internnection	Connecting Pipeline and Meter Pit			NHDES SRF or DWGTF		\$ 250,000	Yes	Plaistow	Yes	\$ 29.00	\$ 7,250	
Twin Ridge Interconnection	Connecting Pipeline and Meter Pit			NHDES SRF or DWGTF		\$ 100,000	Yes	Plaistow	Yes	\$ 29.00	\$ 2,900	
PWW RRA- ERP	Engineering Evaluations to Implement Recommendations			0.1 DSRR		\$ 200,000	No	Various	No	\$ 28.45	\$ -	
Trimble GPS and Monitoring Equipment	Level Monitors, Pressure Monitors and Flow Monitors		DW20-157	Awaiting Approval		\$ 32,000	Yes	Various	Yes	\$ 28.45	\$ 910	
Merrimack River Watershed Council	Grant Match with othe Stakeholders \$40k for five years.		DW20-157	Awaiting Approval		\$ 40,000	No	Various	No	\$ 28.45	\$ -	
Investment in Developer Services	1x Annual Revenue		DW20-157	Awaiting Approval		\$ 90,000	Yes	Various	Yes	\$ 28.45	\$ 2,561	
Engineering Vehicle	SUV Replaces a 2014 vehicle with over 150,000 miles.		DW20-157	Awaiting Approval		\$ 30,000	Yes	Nashua	No	\$ 27.13	\$ -	
Engineering Vehicle	SUV Relpaces (#34) 2010 with over 196,000 miles.		DW20-157	Awaiting Approval		\$ 30,000	Yes	Nashua	No	\$ 27.13	\$ -	
COO Vehicle	SUV Replaces a 2014 vehicle with over 150,000 miles.		DW20-157	Awaiting Approval		\$ 30,000	Yes	Nashua	No	\$ 27.13	\$ -	
Bon Terrain Contractual Payment	Phase 1 payment per SNHWC contract with Tana Properties.		DW20-157	Awaiting Approval		\$ 129,200	Yes	Amherst	No	\$ 32.93	\$ -	
Booster Pump replacement/rebuild	Booster Pump replacement/rebuild		DW20-157	Awaiting Approval		\$ 40,000	Yes	Various	Yes	\$ 28.45	\$ 1,138	
Well Pump replacements	Well Pump replacements		DW20-157	Awaiting Approval		\$ 15,000	Yes	Various	Yes	\$ 28.45	\$ 427	
Chemical Feed pump replacements	Chemical Feed pump replacements		DW20-157	Awaiting Approval		\$ 10,000	Yes	Various	Yes	\$ 28.45	\$ 285	
Supply Pond Spillway Improvements	Supply Pond Spillway Improvements		DW20-157	Awaiting Approval		\$ 750,000	Yes	Merrimack/Nashua	Yes	\$ 27.83	\$ 20,869	
Harris Dam raise earthen embankment, raise dike wall, regulatory requirement.	Harris Dam raise earthen embankment, raise dike wall, regulatory requirement.		DW20-157	Awaiting Approval		\$ 965,000	Yes	Merrimack/Nashua	Yes	\$ 27.83	\$ 26,851	
Misc. Structural Improvements	Misc. Structural Improvements		DW20-157	Awaiting Approval		\$ 20,000	Yes	Various	Yes	\$ 28.45	\$ 569	
Miscellaneous Equipment Purchased	Miscellaneous Equipment Purchased		DW20-157	Awaiting Approval		\$ 20,000	Yes	Various	Yes	\$ 28.45	\$ 569	
Miscellaneous SCADA/Electrical	Miscellaneous SCADA/Electrical		DW20-157	Awaiting Approval		\$ 30,000	Yes	Various	Yes	\$ 28.45	\$ 854	
Rebuild 1 High lift/Intermediate pump	Rebuild 1 High lift/Intermediate pump		DW20-157	Awaiting Approval		\$ 25,000	Yes	Nashua	Yes	\$ 27.13	\$ 678	
WTP Structural/HVAC	WTP Structural/HVAC		DW20-157	Awaiting Approval		\$ 10,000	Yes	Various	Yes	\$ 28.45	\$ 285	
Purchase new lab equipment	Purchase new lab equipment		DW20-157	Awaiting Approval		\$ 20,000	Yes	Nashua	No	\$ 27.13	\$ -	
Miscellaneous Fencing and Security projects	Miscellaneous Fencing and Security projects		DW20-157	Awaiting Approval		\$ 10,000	Yes	Various	Yes	\$ 28.45	\$ 285	
Add Third pump - Donald Street Booster Station	Add Third pump - Donald Street Booster Station		DW20-157	Awaiting Approval		\$ 40,000	Yes	Bedford	Yes	\$ 24.62	\$ 985	
Vehicle replacement	Vehicle replacement-replace vehicle 210. >160,000 miles, 3K repairs in 2020.		DW20-157	Awaiting Approval		\$ 55,000	No	Nashua	No	\$ 27.13	\$ -	
Vehicle replacement	Vehicle replacement - Replace vehicle 351. >163,000 miles, 6K repairs in 2020.		DW20-157	Awaiting Approval		\$ 40,000	No	Nashua	No	\$ 27.13	\$ -	
Replace 6 filter turbidimeters (manufacturer no longer supports current units).	Replace 6 filter turbidimeters (manufacturer no longer supports current units).		DW20-157	Awaiting Approval		\$ 30,000	Yes	Nashua	Yes	\$ 27.13	\$ 814	
Rebuild of Pump 2 @ Merrimack River Intake.	Rebuild of Pump 2 @ Merrimack River Intake.		DW20-157	Awaiting Approval		\$ 75,000	Yes	Merrimack	Yes	\$ 28.52	\$ 2,139	
Repair/Replace Soffit and Fascia, Boat House Bldg.	Repair/Replace Soffit and Fascia, Boat House Bldg.		DW20-157	Awaiting Approval		\$ 30,000	Yes	Nashua	Yes	\$ 27.13	\$ 814	
Install new Day Fuel Tank, Controller and related equip. FWPS Generator	Regulatory requirement, existing equipment is malfunctioning and unreliable, Soft metals present in piping system which is not allowed.		DW20-157	Awaiting Approval		\$ 75,000	Yes	Nashua	No	\$ 27.13	\$ -	
CMMS replacment project (Estimate)	Replace Synergen/WAM with newer more cost effective/improved functionality system.		DW20-157	Awaiting Approval		\$ 100,000	Yes	Nashua	Yes	\$ 27.13	\$ 2,713	
Infoview Licenses	Infoview Licenses		DW20-157	Awaiting Approval		\$ 65,000	No	Nashua	No	\$ 27.13	\$ -	
Redundant Internet	The new phone system, these phone lines use the internet to make and receive telephone calls. We currently only have a single internet feed for the office and the WTP/Distribution facilities. This project provides a secondary internet feed into the Distribution facility which internet will provide us a redundant path to the internet in case one fails. This secondary internet feeds the internet load from the 3 major locations between the 2 internet connections instead of one.		DW20-157	Awaiting Approval		\$ 69,000	Yes	Nashua	Yes	\$ 27.13	\$ 1,872	
Treatment Plant and Distribution security retrofit	Update both the Treatment plant and Distribution to the same security system that the new HQ is using so that there is one badge procedure and system to maintain. It will also gives us better analytics and notifications of access to each of the buildings.		DW20-157	Awaiting Approval		\$ 37,000	Yes	Nashua	Yes	\$ 27.13	\$ 1,004	
IT Storage Room / Work Room	Add tool box, work bench and parts storage to the IT room to keep things organized to provide a place to work on physical computers and perform repairs.		DW20-157	Awaiting Approval		\$ 4,000	Yes	Nashua	Yes	\$ 27.13	\$ 109	
Cybernetics Disk Array	Replace 7 year of device used for system back ups.		DW20-157	Awaiting Approval		\$ 20,000	Yes	Nashua	No	\$ 27.13	\$ -	

Project Name/Description	Project Description	Work Order #	Financing Docket No.	NHPUC Order No.	Date of NHPUC Order	Approved Budgeted Amount	QCPAC Eligible?	Community	Taxable	Tax Rate (l)	QCPAC Eligible Property Tax Expense	Explanation for Change/Addition/Deletion since Feb 2021 Filing
Virtual Desktops	The majority of the office computers will be 5 years old in 2021. The plan is create a Virtual Desktop that will support up to 50 concurrent users. By shifting the computing and disk requirements to a client server will increase computer speed that will allow the existing desktops to remain in service for several more years. Additionally the client server provides more flexibility to the end user to allow them to work at other locations and still get all their settings and programs to perform their job.		DW20-157		Awaiting Approval	\$ 106,000	Yes	Nashua	No	\$ 27.13	\$ -	
Computer Updates	There are 30 Computers that are due for replacement in 2023. These computers have very slow hard drives which make thes		DW20-157		Awaiting Approval	\$ 6,000	Yes	Nashua	No	\$ 27.13	\$ -	
Snow Station Switch Replacement	Replace the outdated switch that connects the fiber optic cable from outsdie to the inside of the WTP.		DW20-157		Awaiting Approval	\$ 1,000	Yes	Nashua	Yes	\$ 27.13	\$ 27	
Munis FER Enancements	Munis FER Enhancements		DW20-157		Awaiting Approval	\$ 35,000	Yes	Nashua	No	\$ 27.13	\$ -	
Click to Munis Data interfaces	Implement connection between ClickSoft and Munis to reduce the need of user to duplicate data entery into Munis from information captured in ClickMobile.		DW20-157		Awaiting Approval	\$ 20,000	Yes	Nashua	No	\$ 27.13	\$ -	
CMMS PLL Implementation	Implemtation of Cityworks PLL. Cityworks PLL simplifies applications for customers and streamlines workflows for staff.		DW20-157		Awaiting Approval	\$ 170,000	Yes	Nashua	Yes	\$ 27.13	\$ 4,612	
Cityworks PLL License	License for above (Estimate)		DW20-157		Awaiting Approval	\$ 40,000	Yes	Nashua	No	\$ 27.13	\$ -	
Misc Hardware	Misc Hardware		DW20-157		Awaiting Approval	\$ 20,000	Yes	Various	No	\$ 28.45	\$ -	
Misc Software	Misc Software		DW20-157		Awaiting Approval	\$ 12,000	Yes	Various	No	\$ 28.45	\$ -	
WTP Wifi expansion	WTP Wifi expansion		DW20-157		Awaiting Approval	\$ 15,000	Yes	Nashua	No	\$ 27.13	\$ -	
Pennichuck Water Works Projected 2021 Total Capital Expenditure Budget -						\$ 12,015,200		Projected Property Tax Expense associated with		\$ 285,917		
Total Projected Bond funded PWW QCPAC Capex for 2021 -						\$ 11,374,200						
Total Projected NHDES SRF/DWGTF funded PWW QCPAC Capex for 2021 -						\$ 350,000						
Total for 0.1 DSRR Projects -						\$ 291,000						
Estimated Bond Terms (Bonds to be sold in April 2022) -		30	Years @	4.0%	resulting in P&I of	\$ 657,771						
DWGTF Terms -		30	Years @	3.38%	resulting in P&I of	\$ 18,745						

1. Tax rate is the sum of the local community rate plus the Statewide Utility tax rate of \$6.60/\$1000

Project Name/Description	Project Description	Work Order #	Financing Docket No.	NHPUC Order No.	Date of NHPUC Order	Approved Budgeted Amount	QCPAC Eligible?	Community	Taxable	Tax Rate (l)	QCPAC Eligible Property Tax Expense	Explanation for Change/Addition/Deletion since Feb 2021 Filing
2022 New Services (10)	Single Family, Owner Build, New Homes		DW20-157		Awaiting Approval	\$ 50,000	Yes	Various	Yes	\$ 28.45	\$ 1,423	
2022 Renewed Services (20)	Replacement of Failed Services		DW20-157		Awaiting Approval	\$ 110,000	Yes	Various	Yes	\$ 28.45	\$ 3,130	
2022 Hydrants (15)	Replacement of non-functional hydrants		DW20-157		Awaiting Approval	\$ 90,000	Yes	Various	Yes	\$ 28.45	\$ 2,561	
2022 Gates (10)	Replacement of Failed Gate Valves		DW20-157		Awaiting Approval	\$ 40,000	Yes	Various	Yes	\$ 28.45	\$ 1,138	
2022 Radios (500)	Replacement of failed Radios (250), New Radios for new customers (250).		DW20-157		Awaiting Approval	\$ 50,000	Yes	Various	Yes	\$ 28.45	\$ 1,423	
2022 Radios (4000)	Yr 2 of 7 Replacment of all PWW Radios installed in 2007 (4000) by contractor.		DW20-157		Awaiting Approval	\$ 520,000	Yes	Various	Yes	\$ 28.45	\$ 14,795	
2022 Meters (Growth) 5/8"-2" - Core & CWS (TBD)	New meters for new customers, including PFOA (250). Replacement of failed meters(250).		DW20-157		Awaiting Approval	\$ 50,000	Yes	Various	Yes	\$ 28.45	\$ 1,423	
Replacement Boom Truck	Replacement for #19 - 2011 Ford F450 - High Milage, Maintenance & Safety issues.		DW20-157		Awaiting Approval	\$ 150,000	Yes	Merrimack	No	\$ 28.52	\$ -	
Replacement Utility Truck	New Utility Truck to replace existing high mileage/maintenance vehicles.		DW20-157		Awaiting Approval	\$ 70,000	Yes	Merrimack	No	\$ 28.52	\$ -	
Replacement Utility Truck	New Utility Truck to replace existing high mileage/maintenance vehicles.		DW20-157		Awaiting Approval	\$ 70,000	Yes	Merrimack	No	\$ 28.52	\$ -	
Replacment Supervisor Pickup	New Full Sized Pickup to Replace existing high mileage/maintenance pickup.		DW20-157		Awaiting Approval	\$ 45,000	Yes	Merrimack	No	\$ 28.52	\$ -	
Replacement Utility Van	New Utility Van to replace existing high mileage/maintenance vehicles.		DW20-157		Awaiting Approval	\$ 40,000	Yes	Merrimack	No	\$ 28.52	\$ -	
Protectus Meter Upgrade	Protectus Meter Upgrade		DW20-157		Awaiting Approval	\$ 22,000	Yes	Nashua	Yes	\$ 27.13	\$ 597	
Miscellaneous Construction Equipment				0.1 DSRR		\$ 40,000	Yes	Merrimack	Yes	\$ 28.52	\$ 1,141	
Balcom Street	Replace 1240 LF 6 inch CI with 1240 LF 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 73,600	Yes	Nashua	Yes	\$ 27.13	\$ 1,997	
Euclid Avenue	Replace 425 LF 6 inch CI with 425LF 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 25,200	Yes	Nashua	Yes	\$ 27.13	\$ 684	
Fairview Street	Replace 800 LF 6 inch CI with 800 LF 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 47,000	Yes	Nashua	Yes	\$ 27.13	\$ 1,275	
Temple St (south to gorman)	Replace 900 LF of 8 inch CI with 12 inch DIPCL.		DW20-157		Awaiting Approval	\$ 66,000	Yes	Nashua	Yes	\$ 27.13	\$ 1,791	
School Street (High to W. Pearl Alleyway)	Replace 400 LF of 4 inch CI with 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 27,000	Yes	Nashua	Yes	\$ 27.13	\$ 733	
Sargent Street	Replace 1900 LF 6 inch CI with 1900 LF 16 inch DIPCL.		DW20-157		Awaiting Approval	\$ 480,000	Yes	Nashua	Yes	\$ 27.13	\$ 13,022	
Courtland Street	Replace 1170 LF 4 inch CI with 1170 LF 16 inch DIPCL.		DW20-157		Awaiting Approval	\$ 300,000	Yes	Nashua	Yes	\$ 27.13	\$ 8,139	
Ald Street	Replace 1860 LF of 6 & 8 inch CI with 12 inch DIPCL.		DW20-157		Awaiting Approval	\$ 740,000	Yes	Nashua	Yes	\$ 27.13	\$ 20,076	
Lawndale Avenue	Replace 1085 LF of 6 inch CI with 12 inch DIPCL.		DW20-157		Awaiting Approval	\$ 420,000	Yes	Nashua	Yes	\$ 27.13	\$ 11,395	
Benson Avenue	Replace 550 LF of 4 inch CI with 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 160,000	Yes	Nashua	Yes	\$ 27.13	\$ 4,341	
Spaulding Street	Replace 950 LF of 6 inch CI with 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 280,000	Yes	Nashua	Yes	\$ 27.13	\$ 7,596	
Alstead Avenue	Replace 240 LF of 4 inch CI with 4 inch DIPCL.		DW20-157		Awaiting Approval	\$ 61,000	Yes	Nashua	Yes	\$ 27.13	\$ 1,655	
Spaulding Avenue	Replace 430 LF of 6, 2, & 1.25 inch CI with 4 inch DIPCL.		DW20-157		Awaiting Approval	\$ 80,000	Yes	Nashua	Yes	\$ 27.13	\$ 2,170	
St Lazare Street	Replace 415 LF of 2 inch CI with 4 inch DIPCL.		DW20-157		Awaiting Approval	\$ 80,000	Yes	Nashua	Yes	\$ 27.13	\$ 2,170	
Ingalls St (St Camille to end)	Replace 200 LF of 1.5 inch CI with 4 inch DIPCL.		DW20-157		Awaiting Approval	\$ 40,000	Yes	Nashua	Yes	\$ 27.13	\$ 1,085	
Nye Avenues	Replace 400 LF of 2 & 1.5 inch CI with 4 inch DIPCL.		DW20-157		Awaiting Approval	\$ 73,000	Yes	Nashua	Yes	\$ 27.13	\$ 1,980	
Copp Street	Replace 350 LF of 6 inch CI with 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 103,000	Yes	Nashua	Yes	\$ 27.13	\$ 2,794	
Fairview Street	Replace 800 LF 6 inch CI with 800 LF 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 189,000	Yes	Nashua	Yes	\$ 27.13	\$ 5,128	
Gray Avenue	Replace 360 LF of 6 inch CI with 6 inch DIPCL.		DW20-157		Awaiting Approval	\$ 85,000	Yes	Nashua	Yes	\$ 27.13	\$ 2,306	
Additional Water Main Replacement	To be determined		DW20-157		Awaiting Approval	\$ 1,100,000	Yes	Nashua	Yes	\$ 27.13	\$ 29,843	
2022 Nashua City Sewer Projects	To be determined		DW20-157		Awaiting Approval	\$ 900,000	Yes	Nashua	Yes	\$ 27.13	\$ 24,417	
PWW RRA- ERP	Implement Recommendations Evaluated in 2021		DW20-157		Awaiting Approval	\$ 500,000	Yes	Various	Yes	\$ 28.45	\$ 14,226	
Merrimack River Watershed Council	Grant Match with other Stakeholders \$40k for five years for land conservation/protection in the Merrimack River Watershed.			0.1 DSRR		\$ 40,000	No	Various	No	\$ 28.45	\$ -	
Investment in Developer Services	1x Annual Rvenue		DW20-157		Awaiting Approval	\$ 90,000	Yes	Various	Yes	\$ 28.45	\$ 2,561	
Replace Engineering Pickup	Replace vehicle with high mileage.		DW20-157		Awaiting Approval	\$ 40,000	Yes	Nashua	No	\$ 27.13	\$ -	
Replace Engineering Pickup	Replace vehicle with high mileage.		DW20-157		Awaiting Approval	\$ 40,000	Yes	Nashua	No	\$ 27.13	\$ -	
Milford Booster Station	Replace/Relocate/Upgrade the Milford Booster Station (>4MGD)		DW20-157		Awaiting Approval	\$ 800,000	No	Amherst	Yes	\$ 32.93	\$ 26,344	
Temple St (south to gorman)	Replace 900 LF of 8 inch CI with 12 inch DIPCL.		DW20-157		Awaiting Approval	\$ 263,000	Yes	Nashua	Yes	\$ 27.13	\$ 7,135	
School Street (High to W. Pearl Alleyway)	Replace 400 LF of 4 inch CI with 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 108,000	Yes	Nashua	Yes	\$ 27.13	\$ 2,930	
Linwood Street	Replace 960 LF of 6 inch CI with 8 inch DIPCL.		DW20-157		Awaiting Approval	\$ 283,800	Yes	Nashua	Yes	\$ 27.13	\$ 7,699	
Booster Pump replacement/rebuild	Booster Pump replacement/rebuild		DW20-157		Awaiting Approval	\$ 40,000	Yes	Various	Yes	\$ 28.45	\$ 1,138	
Well Pump replacements	Well Pump replacements		DW20-157		Awaiting Approval	\$ 15,000	Yes	Various	Yes	\$ 28.45	\$ 427	
Chemical Feed pump replacements	Chemical Feed pump replacements		DW20-157		Awaiting Approval	\$ 10,000	Yes	Various	Yes	\$ 28.45	\$ 285	
Install/replace treatment systems in small CWS.	Install/replace treatment systems in small CWS.		DW20-157		Awaiting Approval	\$ 15,000	Yes	Various	Yes	\$ 28.45	\$ 427	
Misc. Structural Improvements	Misc. Structural Improvements		DW20-157		Awaiting Approval	\$ 15,000	Yes	Various	Yes	\$ 28.45	\$ 427	
Miscellaneous Equipment Purchased	Miscellaneous Equipment Purchased		DW20-157		Awaiting Approval	\$ 20,000	Yes	Various	Yes	\$ 28.45	\$ 569	
Miscellaneous SCADA/Electrical	Miscellaneous SCADA/Electrical		DW20-157		Awaiting Approval	\$ 30,000	Yes	Various	Yes	\$ 28.45	\$ 854	
Well Rehabilitation	Well Rehabilitation		DW20-157		Awaiting Approval	\$ 50,000	Yes	Various	Yes	\$ 28.45	\$ 1,423	
WTP Structural/HVAC	WTP Structural/HVAC		DW20-157		Awaiting Approval	\$ 10,000	Yes	Nashua	Yes	\$ 27.13	\$ 271	
Purchase new lab equipment	Purchase new lab equipment		DW20-157		Awaiting Approval	\$ 20,000	Yes	Nashua	Yes	\$ 27.13	\$ 543	
Miscellaneous Fencing and Security projects	Miscellaneous Fencing and Security projects		DW20-157		Awaiting Approval	\$ 10,000	Yes	Nashua	Yes	\$ 27.13	\$ 271	
Re-paint FWPS ceiling	Re-paint FWPS ceiling		DW20-157		Awaiting Approval	\$ 20,000	Yes	Nashua	Yes	\$ 27.13	\$ 543	
WTP Replace Vehicle	Replace High Mileage Vehicle.		DW20-157		Awaiting Approval	\$ 65,000	Yes	Nashua	No	\$ 27.13	\$ -	
WTP Replace Vehicle	Replace High Mileage Vehicle.		DW20-157		Awaiting Approval	\$ 40,000	Yes	Nashua	No	\$ 27.13	\$ -	
Bowers Spillway Reconstruction, regulatory requirement	Bowers Spillway Reconstruction, regulatory requirement		DW20-157		Awaiting Approval	\$ 1,100,000	Yes	Nashua	No	\$ 27.13	\$ -	
Misc Hardware	Misc Hardware			0.1 DSRR		\$ 20,000	No	Nashua	No	\$ 27.13	\$ -	
Misc Software	Misc Software			0.1 DSRR		\$ 12,000	No	Nashua	No	\$ 27.13	\$ -	
Network Hardawre infrastructure improvements	Update aging network infrastructure.		DW20-157		Awaiting Approval	\$ 80,000	Yes	Nashua	No	\$ 27.13	\$ -	
Major Software Replacement Project				0.1 DSRR		\$ 60,000	No	Nashua	No	\$ 27.13	\$ -	
Munis Enhancements	Munis Enhancements		DW20-157		Awaiting Approval	\$ 35,000	Yes	Nashua	No	\$ 27.13	\$ -	
Pennichuck Water Works Projected 2022 Total Capital Expenditure Budget -						\$ 10,508,600		Projected Property Tax Expense associated		\$ 240,298		

Total Projected Bond funded PWW QCPAC Capex for 2021 - \$ 9,536,600 less \$ 800,000 for Milford Booster. Milford to pay the 1.1x P&I
Total Projected NHDES SRF/DWGTf funded PWW QCPAC Capex for 2021 - \$ -
Total for 0.1 DSRR Projects - \$ 172,000

Estimated Bond Terms (Bonds to be sold in April 2022) - 30 Years @ 4.0% resulting in P&I of \$ 551,503

Project Name/Description	Project Description	Work Order #	Financing Docket No.	NHPUC Order No.	Date of NHPUC Order	Approved Budgeted Amount	QCPAC Eligible?	Community	Taxable	Tax Rate (1)	QCPAC Eligible Property Tax Expense	Explanation for Change/Addition/Deletion since Feb 2021 Filing
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1. Tax rate is the sum of the local community rate plus the Statewide Utility tax rate of \$6.60/\$1000

Project Name/Description	Project Description	Work Order #	Financing Docket No.	NHPUC Order No.	Date of NHPUC Order	Approved Budgeted Amount	QCPAC Eligible?	Community	Taxable	Tax Rate (l)	QCPAC Eligible Property Tax Expense	Explanation for Change/Addition/Deletion since Feb 2021 Filing
2023 New Services (10)	Single Family, Owner Build, New Homes		DW20-157	Awaiting Approval		\$ 50,000	Yes	Various	Yes	\$ 28.45	\$ 1,423	
2023 Renewed Services (20)	Replacement of Failed Services		DW20-157	Awaiting Approval		\$ 110,000	Yes	Various	Yes	\$ 28.45	\$ 3,130	
2023 Hydrants (15)	Replacement of non-functional hydrants		DW20-157	Awaiting Approval		\$ 90,000	Yes	Various	Yes	\$ 28.45	\$ 2,561	
2023 Gates (10)	Replacement of Failed Gate Valves		DW20-157	Awaiting Approval		\$ 40,000	Yes	Various	Yes	\$ 28.45	\$ 1,138	
2023 Radios (500)	Replacement of failed Radios (250), New Radios for new customers (250).		DW20-157	Awaiting Approval		\$ 50,000	Yes	Various	Yes	\$ 28.45	\$ 1,423	
2023 Radios (4000)	Yr 2 of 7 Replacement of all PWW Radios installed in 2007 (4000) by contractor.		DW20-157	Awaiting Approval		\$ 520,000	Yes	Various	Yes	\$ 28.45	\$ 14,795	
2023 Meters (Growth) 5/8"-2" - Core & CWS (TBD)	New meters for new customers, including PFOA (250). Replacement of failed meters(250).		DW20-157	Awaiting Approval		\$ 50,000	Yes	Various	Yes	\$ 28.45	\$ 1,423	
Replacement Utility Truck	New Utility Truck to replace existing high mileage/maintenance vehicles.		DW20-157	Awaiting Approval		\$ 70,000	Yes	Merrimack	No	\$ 28.52	\$ -	
Replacement Utility Truck	New Utility Truck to replace existing high mileage/maintenance vehicles.		DW20-157	Awaiting Approval		\$ 70,000	Yes	Merrimack	No	\$ 28.52	\$ -	
Replacment Supervisor Pickup	New Full Sized Pickup to Replace existing high mileage/maintenance pickup.		DW20-157	Awaiting Approval		\$ 45,000	Yes	Merrimack	No	\$ 28.52	\$ -	
Replacement Utility Van	New Utility Van to replace existing high mileage/maintenance vehicles.		DW20-157	Awaiting Approval		\$ 40,000	Yes	Merrimack	No	\$ 28.52	\$ -	
Protectus Meter Upgrade	Protectus Meter Upgrade		DW20-157	Awaiting Approval		\$ 22,000	Yes	Nashua	No	\$ 27.13	\$ -	
Miscellaneous Construction Equipment	Miscellaneous Construction Equipment			0.1 DSRR		\$ 40,000	Yes	Merrimack	Yes	\$ 28.52	\$ 1,141	
PWW RRA- ERP	Implement Recommendations Evaluated in 2021.		DW20-157	Awaiting Approval		\$ 500,000	Yes	Various	Yes	\$ 28.45	\$ 14,226	
Sargent Street	Replace 1900 LF 6 inch CI with 1900 LF 16 inch DIPCL.		DW20-157	Awaiting Approval		\$ 84,000	Yes	Nashua	Yes	\$ 27.13	\$ 2,279	
Courtland Street	Replace 1170 LF 4 inch CI with 1170 LF 16 inch DIPCL.		DW20-157	Awaiting Approval		\$ 52,000	Yes	Nashua	Yes	\$ 27.13	\$ 1,411	
Ald Street	Replace 1860 LF of 6 & 8 inch CI with 12 inch DIPCL.		DW20-157	Awaiting Approval		\$ 130,000	Yes	Nashua	Yes	\$ 27.13	\$ 3,527	
Lawndale Avenue	Replace 1085 LF of 6 inch CI with 12 inch DIPCL.		DW20-157	Awaiting Approval		\$ 73,000	Yes	Nashua	Yes	\$ 27.13	\$ 1,980	
Benson Avenue	Replace 550 LF of 4 inch CI with 8 inch DIPCL.		DW20-157	Awaiting Approval		\$ 28,000	Yes	Nashua	Yes	\$ 27.13	\$ 760	
Spaulding Street	Replace 950 LF of 6 inch CI with 8 inch DIPCL.		DW20-157	Awaiting Approval		\$ 48,000	Yes	Nashua	Yes	\$ 27.13	\$ 1,302	
Alstead Avenue	Replace 240 LF of 4 inch CI with 4 inch DIPCL.		DW20-157	Awaiting Approval		\$ 11,000	Yes	Nashua	Yes	\$ 27.13	\$ 298	
Spaulding Avenue	Replace 430 LF of 6, 2, & 1.25 inch CI with 4 inch DIPCL.		DW20-157	Awaiting Approval		\$ 14,000	Yes	Nashua	Yes	\$ 27.13	\$ 380	
St Lazare Street	Replace 415 LF of 2 inch CI with 4 inch DIPCL.		DW20-157	Awaiting Approval		\$ 14,000	Yes	Nashua	Yes	\$ 27.13	\$ 380	
Ingalls St (St Camille to end)	Replace 200 LF of 1.5 inch CI with 4 inch DIPCL.		DW20-157	Awaiting Approval		\$ 6,000	Yes	Nashua	Yes	\$ 27.13	\$ 163	
Nye Avenues	Replace 400 LF of 2 & 1.5 inch CI with 4 inch DIPCL.		DW20-157	Awaiting Approval		\$ 13,000	Yes	Nashua	Yes	\$ 27.13	\$ 353	
Copp Street	Replace 350 LF of 6 inch CI with 8 inch DIPCL.		DW20-157	Awaiting Approval		\$ 18,000	Yes	Nashua	Yes	\$ 27.13	\$ 488	
Gray Avenue	Replace 360 LF of 6 inch CI with 6 inch DIPCL.		DW20-157	Awaiting Approval		\$ 15,000	Yes	Nashua	Yes	\$ 27.13	\$ 407	
2022 Nashua City Sewer Projects	To be detremined (Paving)		DW20-157	Awaiting Approval		\$ 200,000	Yes	Nashua	Yes	\$ 27.13	\$ 5,426	
Fairview Street	Replace 800 LF 6 inch CI with 800 LF 8 inch DIPCL.		DW20-157	Awaiting Approval		\$ 47,000	Yes	Nashua	Yes	\$ 27.13	\$ 1,275	
Water Main Replacement Additional Paving Carry Over	TBD from 2022		DW20-157	Awaiting Approval		\$ 400,000	Yes	Nashua	Yes	\$ 27.13	\$ 10,852	
Booster Station Replacement/Upgrade	To be determined		DW20-157	Awaiting Approval		\$ 800,000	Yes	Nashua	Yes	\$ 27.13	\$ 21,704	
Water Main Replacement	To be determined		DW20-157	Awaiting Approval		\$ 3,700,000	Yes	Nashua	Yes	\$ 27.13	\$ 100,381	
2023 Nashua City Sewer Projects	To be determined		DW20-157	Awaiting Approval		\$ 900,000	Yes	Nashua	Yes	\$ 27.13	\$ 24,417	
Merrimack River Watershed Council	Grant Match with other Stakeholders \$40k for five years.			0.1 DSRR		\$ 40,000	No	Various	No	\$ 28.45	\$ -	
Trimble GPS and Monitoring Equipment	Level Monitors, Pressure Monitors and Flow Monitors		DW20-157	Awaiting Approval		\$ 32,000	Yes	Merrimack	No	\$ 28.52	\$ -	
Investment in Developer Services	1x Annual Rvenue		DW20-157	Awaiting Approval		\$ 90,000	Yes	Various	Yes	\$ 28.45	\$ 2,561	
Replace Engineering SUV	Replace vehicle with high mileage.		DW20-157	Awaiting Approval		\$ 30,000	Yes	Various	Yes	\$ 28.45	\$ 854	
Replace Engineering Pickup	Replace vehicle with high mileage.		DW20-157	Awaiting Approval		\$ 40,000	No	Various	Yes	\$ 28.45	\$ 1,138	
Booster Pump replacement/rebuild	Booster Pump replacement/rebuild		DW20-157	Awaiting Approval		\$ 40,000	Yes	Various	Yes	\$ 28.45	\$ 1,138	
Well Pump replacements	Well Pump replacements		DW20-157	Awaiting Approval		\$ 15,000	Yes	Various	Yes	\$ 28.45	\$ 427	
Chemical Feed pump replacements	Chemical Feed pump replacements		DW20-157	Awaiting Approval		\$ 15,000	Yes	Various	Yes	\$ 28.45	\$ 427	
Carbon media changeout-filters 1 & 2 (Spring of 2023)	Carbon media changeout-filters 1 & 2		DW20-157	Awaiting Approval		\$ 500,000	Yes	Nashua	Yes	\$ 27.13	\$ 13,565	
Install/replace treatment systems in small CWS.	Install/replace treatment systems in small CWS.		DW20-157	Awaiting Approval		\$ 15,000	Yes	Various	Yes	\$ 28.45	\$ 427	
Misc. Structural Improvements	Misc. Structural Improvements		DW20-157	Awaiting Approval		\$ 20,000	Yes	Various	Yes	\$ 28.45	\$ 569	
Miscellaneous Equipment Purchased	Miscellaneous Equipment Purchased		DW20-157	Awaiting Approval		\$ 20,000	Yes	Various	Yes	\$ 28.45	\$ 569	
Miscellaneous SCADA/Electrical	Miscellaneous SCADA/Electrical		DW20-157	Awaiting Approval		\$ 30,000	Yes	Various	Yes	\$ 28.45	\$ 854	
Well Rehabilitation	Well Rehabilitation		DW20-157	Awaiting Approval		\$ 50,000	Yes	Various	Yes	\$ 28.45	\$ 1,423	
WTP Structural/HVAC	WTP Structural/HVAC		DW20-157	Awaiting Approval		\$ 10,000	Yes	Nasnua	Yes	\$ 27.13	\$ 271	
Purchase new lab equipment	Purchase new lab equipment.		DW20-157	Awaiting Approval		\$ 20,000	Yes	Nashua	No	\$ 27.13	\$ -	
Miscellaneous Fencing and Security projects	Miscellaneous Fencing and Security projects		DW20-157	Awaiting Approval		\$ 10,000	Yes	Various	Yes	\$ 28.45	\$ 285	
Replace Vehicle	Replace High Mileage Vehicle.		DW20-157	Awaiting Approval		\$ 65,000	Yes	Nashua	No	\$ 27.13	\$ -	
Carbon media chageout - 3 & 4 (Fall of 2023)	Carbon media chageout - 3 & 4		DW20-157	Awaiting Approval		\$ 500,000	Yes	Nasnua	Yes	\$ 27.13	\$ 13,565	
Replace Vehicle	Replace High Mileage Vehicle.		DW20-157	Awaiting Approval		\$ 40,000	Yes	Nashua	No	\$ 27.13	\$ -	
Misc Hardware	Misc Hardware			0.1 DSRR		\$ 20,000	No	Nashua	No	\$ 27.13	\$ -	
Misc Software	Misc Software			0.1 DSRR		\$ 12,000	No	Nashua	No	\$ 27.13	\$ -	
Network Hardware infrastructure improvements	Update aging network infrustructure.		DW20-157	Awaiting Approval		\$ 80,000	Yes	Nashua	No	\$ 27.13	\$ -	
Major Software Replacement Project				0.1 DSRR		\$ 60,000	No	Nashua	No	\$ 27.13	\$ -	
Munis Enhancements	Munis Enhancements			0.1 DSRR		\$ 35,000	No	Amherst	No	\$ 32.93	\$ -	
Misc Computer replacements				0.1 DSRR		\$ 15,000	No	Nashua	No	\$ 27.13	\$ -	
Pennichuck Water Works Projected 2020 Total Capital Expenditure Budget -						\$ 10,054,000		Projected Property Tax Expense associated with		\$ 257,112		

Total Projected Bond funded PWW QCPAC Capex for 2021 - \$ 9,832,000
Total Projected NHDES SRF/DWGTf funded PWW QCPAC Capex for 2021 - \$ -
Total for 0.1 DSRR Projects - \$ 222,000

Estimated Bond Terms (Bonds to be sold in April 2022) - 30 Years @ 4.0% resulting in P&I of \$ 568,586

1. Tax rate is the sum of the local community rate plus the Statewide Utility tax rate of \$6.60/\$1000

Pennschuck Water Works, Inc.
DW21-023
Sheet DW 1-4
7/20/2021

Manchester Water Works Schedule of Pennschuck 60 day average daily consumption 2019									
		Total	PEU Portion	PWW Portion					
Average Daily Flow (GAL) - Max. allowed		2,160,000							
Average Daily Flow (GAL) -		1,356,078	718,662	602,704	Purchased = 356,078 in 2016				
Average Daily Flow (GAL) -									
Increase in 2016 (GAL)									
Current MSDC rate per gallon		\$ 3.37	\$ 3.37	\$ 3.37					
MSDC additional charge		\$ -	\$ -	\$ -					
Consumption (GAL)		# days in billion cubic	Consumption current period	Consumption prior period	Two (2) month Average Daily flow				
Month:									
2019									
January	30	19,956,072	-	666,169					
February	29	16,697,874	19,956,072	614,706					
March	31	16,912,032	16,697,874	592,330					
April	31	17,179,873	16,912,032	577,825					
May	31	20,962,960	17,179,873	686,439					
June	30	24,396,148	20,962,960	708,767					
July	31	33,702,665	24,396,148	937,119					
August	29	33,986,570	33,702,665	1,147,275					
September	30	30,274,427	33,986,570	1,003,409					
October	30	26,277,860	30,274,427	896,065					
November	30	18,397,660	26,277,860	693,253					
December	30	14,966,324	18,397,660	628,689					
Pennschuck East Utility, Inc. (PEU)					Manchester Water Works, Inc. (PWW)				
		Cust #95635	Cust #95663	Cust #95616	Cust #95741	Cust #143619	Cust #95631	Cust #107226	
		Loc #96934	Loc #96904	Loc #96956	Loc #94798	Loc #94798	Loc #96934	Loc #200376	
		Joanne Dr.	Harvey Rd.	Mammoth Rd.	Coteville Rd.	Rockingham R	Patten and County Rd.	Donald Street	
Month:									
2019									
January	30	865	3,837	16,026	1,039	162	1,110	3,958	20,993
February	29	667	2,391	15,191	759	144	852	3,052	16,241
March	31	661	2,531	14,876	445	204	963	3,240	17,562
April	30	666	2,446	14,537	395	180	1,066	3,995	17,463
May	31	660	3,255	16,904	466	196	1,406	6,199	19,965
June	30	897	4,296	16,666	469	146	1,249	6,807	20,416
July	30	848	2,961	23,548	635	176	1,410	16,539	27,854
August	29	871	1,899	23,411	1,063	193	1,389	16,910	26,873
September	30	735	3,363	20,363	938	176	1,212	13,767	24,866
October	30	676	3,069	16,147	780	214	1,089	9,878	21,936
November	30	632	2,429	14,876	885	191	964	4,935	17,862
December	30	562	2,188	12,581	895	148	838	3,819	16,359
proof		8,640	33,947	202,700	8,079	2,121	13,496	94,200	
Secondary Tank					Wellington Tank Low Service Tanks				
		Cust #95635	Cust #95663	Cust #95616	Cust #95741	Cust #95631	Cust #143619	Cust #95631	Cust #107226
		Loc #96904	Loc #96956	Loc #94798	Loc #96934	Loc #207920	Loc #96938	Loc #200376	
		Harvey Rd.	Mammoth Rd.	Coteville Rd.	Rockingham R	Pine Ave.	Patten and County Rd.	Donald Street	
Month:									
2019									
January	30	3,837	16,026	1,039	865	162	1,110	3,958	20,993
February	29	2,391	15,191	759	667	144	852	3,052	16,241
March	31	2,531	14,876	445	661	204	963	3,240	17,562
April	30	2,446	14,537	395	666	180	1,066	3,995	17,463
May	31	3,255	16,904	466	660	196	1,406	6,199	19,965
June	30	4,296	16,666	469	897	146	1,249	6,807	20,416
July	30	2,961	23,548	635	848	176	1,410	16,539	27,854
August	29	1,899	23,411	1,063	871	193	1,389	16,910	26,873
September	30	3,363	20,363	938	735	176	1,212	13,767	24,866
October	30	3,069	16,147	780	676	214	1,089	9,878	21,936
November	30	2,429	14,876	885	632	191	964	4,935	17,862
December	30	2,188	12,581	895	562	148	838	3,819	16,359
proof		33,947	202,700	8,079	8,640	2,121	13,496	94,200	
Londonderry					Wellington				
		Cust #95635	Cust #95663	Cust #95616	Cust #95741	Cust #95631	Cust #143619	Cust #95631	Cust #107226
		Loc #96904	Loc #96956	Loc #94798	Loc #96934	Loc #207920	Loc #96938	Loc #200376	
		Harvey Rd.	Mammoth Rd.	Coteville Rd.	Rockingham R	Pine Ave.	Patten and County Rd.	Donald Street	
Month:									
2019									
January	30	3,837	16,026	1,039	865	162	1,110	3,958	20,993
February	29	2,391	15,191	759	667	144	852	3,052	16,241
March	31	2,531	14,876	445	661	204	963	3,240	17,562
April	30	2,446	14,537	395	666	180	1,066	3,995	17,463
May	31	3,255	16,904	466	660	196	1,406	6,199	19,965
June	30	4,296	16,666	469	897	146	1,249	6,807	20,416
July	30	2,961	23,548	635	848	176	1,410	16,539	27,854
August	29	1,899	23,411	1,063	871	193	1,389	16,910	26,873
September	30	3,363	20,363	938	735	176	1,212	13,767	24,866
October	30	3,069	16,147	780	676	214	1,089	9,878	21,936
November	30	2,429	14,876	885	632	191	964	4,935	17,862
December	30	2,188	12,581	895	562	148	838	3,819	16,359
proof		33,947	202,700	8,079	8,640	2,121	13,496	94,200	
Low Service					Low Service				
		Cust #95635	Cust #95663	Cust #95616	Cust #95741	Cust #95631	Cust #143619	Cust #95631	Cust #107226
		Loc #96904	Loc #96956	Loc #94798	Loc #96934	Loc #207920	Loc #96938	Loc #200376	
		Harvey Rd.	Mammoth Rd.	Coteville Rd.	Rockingham R	Pine Ave.	Patten and County Rd.	Donald Street	
Month:									
2019									
January	30	3,837	16,026	1,039	865	162	1,110	3,958	20,993
February	29	2,391	15,191	759	667	144	852	3,052	16,241
March	31	2,531	14,876	445	661	204	963	3,240	17,562
April	30	2,446	14,537	395	666	180	1,066	3,995	17,463
May	31	3,255	16,904	466	660	196	1,406	6,199	19,965
June	30	4,296	16,666	469	897	146	1,249	6,807	20,416
July	30	2,961	23,548	635	848	176	1,410	16,539	27,854
August	29	1,899	23,411	1,063	871	193	1,389	16,910	26,873
September	30	3,363	20,363	938	735	176	1,212	13,767	24,866
October	30	3,069	16,147	780	676	214	1,089	9,878	21,936
November	30	2,429	14,876	885	632	191	964	4,935	17,862
December	30	2,188	12,581	895	562	148	838	3,819	16,359
proof		33,947	202,700	8,079	8,640	2,121	13,496	94,200	
Tank CCF					Tank CCF				
		Cust #95635	Cust #95663	Cust #95616	Cust #95741	Cust #95631	Cust #143619	Cust #95631	Cust #107226
		Loc #96904	Loc #96956	Loc #94798	Loc #96934	Loc #207920	Loc #96938	Loc #200376	
		Harvey Rd.	Mammoth Rd.	Coteville Rd.	Rockingham R	Pine Ave.	Patten and County Rd.	Donald Street	
Month:									
2019									
January	30	3,837	16,026	1,039	865	162	1,110	3,958	20,993
February	29	2,391	15,191	759	667	144	852	3,052	16,241
March	31	2,531	14,876	445	661	204	963	3,240	17,562
April	30	2,446	14,537	395	666	180	1,066	3,995	17,463
May	31	3,255	16,904	466	660	196	1,406	6,199	19,965
June	30	4,296	16,666	469	897	146	1,249	6,807	20,416
July	30	2,961	23,548	635	848	176	1,410	16,539	27,854
August	29	1,899	23,411	1,063	871	193	1,389	16,910	26,873
September	30	3,363	20,363	938	735	176	1,212	13,767	24,866
October	30	3,069	16,147	780	676	214	1,089	9,878	21,936
November	30	2,429	14,876	885	632	191	964	4,935	17,862
December	30	2,188	12,581	895	562	148	838	3,819	16,359
proof		33,947	202,700	8,079	8,640	2,121	13,496	94,200	
Tank CCF					Tank CCF				
		Cust #95635	Cust #95663	Cust #95616	Cust #95741	Cust #95631	Cust #143619	Cust #95631	Cust #107226
		Loc #96904	Loc #96956	Loc #94798	Loc #96934	Loc #207920	Loc #96938	Loc #200376	
		Harvey Rd.	Mammoth Rd.	Coteville Rd.	Rockingham R	Pine Ave.	Patten and County Rd.	Donald Street	
Month:									
2019									
January	30	3,837	16,026	1,039	865	162	1,110	3,958	20,993
February	29	2,391	15,191	759	667	144	852	3,052	16,241
March	31	2,531	14,876	445	661	204	963	3,240	17,562
April	30	2,446	14,537	395	666	180	1,066	3,995	17,463
May	31	3,255	16,904	466	660	196	1,406	6,199	19,965
June	30	4,296	16,666	469	897	146	1,249	6,807	20,416
July	30	2,961	23,548	635	848	176	1,410	16,539	27,854
August	29	1,899	23,411	1,063	871	193	1,389	16,910	26,873
September	30	3,363	20,363	938	735	176	1,212	13,767	24,866
October	30	3,069	16,147	780	676	214	1,089	9,878	21,936
November	30	2,429	14,876	885	632	191	964	4,935	17,862
December	30	2,188	12,581	895	562	148	838	3,819	16,359
proof		33,947	202,700	8,079	8,640	2,121	13,496	94,200	
Tank CCF					Tank CCF				
		Cust #95635	Cust #95663	Cust #95616					

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Manchester Water Works Schedule of Pennschuck 60 day average daily consumption 2016																								
		Total		PEU Portion		PWW Portion																		
Average Daily Flow (Gal.) - Max. allowed		2,160,078		718,682		902,704		Purchased 1,356,078 in 2016																
Average Daily Flow (Gal.) - (2016)		1,356,878																						
Increase in 2016 (Gal.)		\$ 3.97		\$ 3.97		\$ 3.97																		
Current MSDC rate per gallon - 2016		\$ -		\$ -		\$ -																		
MSDC additional charge		\$ -		\$ -		\$ -																		
Consumption (Gal.):		# days in billing cycle		Consumption current period		Consumption prior period		Two (2) month Average Daily Flow																
Month:																								
2016																								
January	30		18,855,454				691,848																	
February	28		15,815,958		18,855,454		870,181																	
March	28		16,166,154		15,815,958		956,897																	
April	31		18,283,118		16,166,154		882,530																	
May	31		26,473,028		18,283,118		799,107																	
June	30		29,816,863		26,473,028		876,287																	
July	30		27,858,823		29,816,863		886,214																	
August	29		27,843,644		27,858,823		1,115,236																	
September	30		27,558,368		27,843,644		959,889																	
October	30		18,416,348		27,558,368		741,431																	
November	30		16,109,886		18,416,348		547,793																	
December	30		14,875,887		16,109,886		488,053																	
Pennschuck East Utility, Inc. (PEU)																								
		Cust #9593		Cust #9593		Cust #9593		Cust #9593		Cust #9593		Cust #9593		Cust #9593		Cust #9593		Cust #9593		Cust #9593		Cust #9593		
		Loc #9593		Loc #9593		Loc #9593		Loc #9593		Loc #9593		Loc #9593		Loc #9593		Loc #9593		Loc #9593		Loc #9593		Loc #9593		
		Joanna Dr.		Joanna Dr.		Joanna Dr.		Joanna Dr.		Joanna Dr.		Joanna Dr.		Joanna Dr.		Joanna Dr.		Joanna Dr.		Joanna Dr.		Joanna Dr.		
		Smithwoods		Smithwoods		Smithwoods		Smithwoods		Smithwoods		Smithwoods		Smithwoods		Smithwoods		Smithwoods		Smithwoods		Smithwoods		
Month:																								
January	30		589		13,917		927		190		3,518		18,643		5,495		18,055,454							
February	28		608		2,449		12,757		792		153		250		3,164		16,016,906							
March	28		605		2,723		13,926		860		487		3,316		3,803		16,166,154							
April	31		771		2,807		14,141		985		158		436		5,693		18,283,118							
May	31		738		3,831		18,303		1,365		176		2,771		8,484		26,473,028							
June	30		928		4,830		25,582		1,321		206		4,789		1,888		29,816,863							
July	30		935		4,646		23,522		1,653		193		4,054		1,660		27,858,823							
August	29		911		3,962		20,033		1,237		811		171		390		27,843,644							
September	30		736		3,411		19,855		1,117		790		169		1,231		27,558,368							
October	30		699		2,440		14,821		626		699		168		1,048		18,416,348							
November	30		648		2,133		12,385		481		743		170		922		16,109,886							
December	30		548		1,888		12,069		781		148		873		3,240		14,875,887							
proof			8,478		37,849		291,753		12,064		2,069		19,969		73,613		281,876		8,478		95,651			
Water Works, Inc. (PWW)																								
		Cust #9593		Cust #9593		Cust #9593		Cust #9593		Cust #9593		Cust #9593		Cust #9593		Cust #9593		Cust #9593		Cust #9593		Cust #9593		
		Loc #9593		Loc #9593		Loc #9593		Loc #9593		Loc #9593		Loc #9593		Loc #9593		Loc #9593		Loc #9593		Loc #9593		Loc #9593		
		Patten and		Patten and		Patten and		Patten and		Patten and		Patten and		Patten and		Patten and		Patten and		Patten and		Patten and		
		County Rd.		County Rd.		County Rd.		County Rd.		County Rd.		County Rd.		County Rd.		County Rd.		County Rd.		County Rd.		County Rd.		
Month:																								
January	30		3,051		13,917		927		190		3,518		18,643		5,495		18,055,454							
February	28		2,449		12,757		792		153		250		3,164		3,803		16,016,906							
March	28		2,723		13,926		860		487		3,316		3,803		3,803		16,166,154							
April	31		2,807		14,141		985		158		436		5,693		5,693		18,283,118							
May	31		3,831		18,303		1,365		176		2,771		8,484		8,484		26,473,028							
June	30		4,830		25,582		1,321		206		4,789		1,888		32,330		29,816,863							
July	30		4,646		23,522		1,653		193		4,054		1,660		37,858		27,858,823							
August	29		3,962		20,033		1,237		811		171		390		11,254		27,843,644							
September	30		3,411		19,855		1,117		790		169		1,231		10,270		27,558,368							
October	30		2,440		14,821		626		699		168		1,048		4,811		18,416,348							
November	30		2,133		12,385		481		743		170		922		3,633		16,109,886							
December	30		1,888		12,069		781		148		87													

[illegible]

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Manchester Water Works Schedule of Pennschuck 60 day average daily consumption 2016																								
		Total		PEU Portion		PWW Portion																		
Average Daily Flow (Gal.) - Max. allowed		2,100,000																						
Average Daily Flow (Gal.) - (2011)		1,221,336		718,682		502,754																		
Average Daily Flow (Gal.) - (2011)		1,386,878		787,073		599,805		Purchased 1,356,078 in 2016																
Increase in 2016 (Gal.)		134,772		68,471		66,361																		
Current MSDC rate per gallon - 2016		\$ 3.17		\$ 3.37		\$ 3.37																		
MSDC additional charge		\$ 454,182		\$ 235,747		\$ 223,435																		
Consumption (Gal.):		# days in billing cycle		Consumption current period		Consumption prior period		Two (2) month Average Daily Flow																
Month:																								
2016																								
January		31		14,537,131		-		468,940																
February		28		13,309,144		14,537,131		471,971																
March		31		14,205,246		13,309,144		466,344																
April		30		15,242,434		14,205,246		482,749																
May		31		26,523,996		15,242,434		596,335																
June		30		39,843,351		26,523,996		1,089,629																
July		31		42,877,420		39,843,351		1,366,078																
August		31		37,666,073		42,877,420		1,299,089																
September		30		39,563,003		37,666,073		1,105,009																
October		31		17,969,054		39,563,003		785,687																
November		30		14,737,320		17,969,054		536,170																
December		31		16,245,140		14,737,320		507,975																

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Manchester Water Works Schedule of Pennschuck 60 day average daily consumption 2015																								
		Total		PEU Portion		PWW Portion																		
Average Daily Flow (Gal.) - Max. allowed		2,100,000																						
Average Daily Flow (Gal.) - (2011)		1,221,396		718,602		502,794																		
Average Daily Flow (Gal.) - (2011)		1,139,532		644,395		495,137																		
Increase in 2016 (Gal.)		86,864		174,207		107,657																		
Current MSDC meter station 2016		3.97		3.97		3.97																		
MSDC additional charge		\$		\$		\$																		
Consumption (Gal.)		# days in billing cycle		Consumption current period		Consumption prior period		Two (2) month Average Daily Flow																
Month:																								
2015																								
January		31		14,688,108		-		473,810																
February		28		12,847,818		14,688,108		466,711																
March		31		16,376,376		12,847,818		478,376																
April		30		16,882,898		16,376,376		526,557																
May		31		26,853,923		16,882,898		776,909																
June		30		31,426,377		26,853,923		1,017,710																
July		31		32,254,027		31,426,377		1,043,941																
August		31		37,899,334		32,254,027		1,126,922																
September		30		31,526,680		37,899,334		1,139,622																
October		31		19,966,462		31,526,680		620,542																
November		30		13,891,813		19,966,462		553,411																
December		31		14,735,738		13,891,813		467,825																
proof				6,452		25,081		187,342		12,677		1,899		20,399		199,797		233,451		1,59,105		2,71,935,953		
				6,452		25,081		187,342		12,677		1,899		20,399		199,797		233,451		1,59,105		2,71,935,953		
				6,452		25,081		187,342		12,677		1,899		20,399		199,797		233,451		1,59,105		2,71,935,953		
				6,452		25,081		187,342		12,677		1,899		20,399		199,797		233,451		1,59,105		2,71,935,953		
				6,452		25,081		187,342		12,677		1,899		20,399		199,797		233,451		1,59,105		2,71,935,953		
				6,452		25,081		187,342		12,677		1,899		20,399		199,797		233,451		1,59,105		2,71,935,953		
				6,452		25,081		187,342		12,677		1,899		20,399		199,797		233,451		1,59,105		2,71,935,953		
				6,452		25,081		187,342		12,677		1,899		20,399		199,797		233,451		1,59,105		2,71,935,953		
				6,452		25,081		187,342		12,677		1,899		20,399		199,797		233,451		1,59,105		2,71,935,953		
				6,452		25,081		187,342		12,677		1,899		20,399		199,797		233,451		1,59,105		2,71,935,953		
				6,452		25,081		187,342		12,677		1,899		20,399		199,797		233,451		1,59,105		2,71,935,953		
				6,452		25,081		187,342		12,677		1,899		20,399		199,797		233,451		1,59,105		2,71,935,953		
				6,452		25,081		187,342		12,677		1,899		20,399		199,797		233,451		1,59,105		2,71,935,953		
				6,452		25,081		187,342		12,677		1,899		20,399		199,797		233,451		1,59,105		2,71,935,953		
				6,452		25,081		187,342		12,677		1,899		20,399		199,797		233,451		1,59,105		2,71,935,953		
				6,452		25,081		187,342		12,677		1,899		20,399		199,797		233,451		1,59,105		2,71,935,953		
				6,452		25,081		187,342		12,677		1,899		20,399		199,797		233,451		1,59,105		2,71,935,953		
				6,452																				

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Manchester Water Works Schedule of Pennschuck 60 day average daily consumption 2014																									
		Total		PEU Portion		PWW Portion																			
Average Daily Flow (Gal.) - Max. allowed		2,100,000																							
Average Daily Flow (Gal.) - (2011)		1,221,396		718,682		502,714																			
Average Daily Flow (Gal.) - (2011)		1,587,111		873,893		713,218																			
Increase in 2016 (Gal.)		3,657		153,207		204,484																			
Current MSDC rate per gallon 2016		\$ 3.97		\$ 3.97		\$ 3.97																			
MSDC additional charge		\$ -		\$ -		\$ -																			
Consumption (Gal.)		# days in billing cycle		Consumption current period		Consumption prior period		Two (2) month Average Daily Flow																	
Month:																									
2014																									
January		31		17,227,526		-		555,727																	
February		28		15,493,945		17,227,526		553,061																	
March		31		16,912,476		15,493,945		547,721																	
April		30		15,551,283		16,912,476		532,193																	
May		31		22,274,739		15,551,283		620,899																	
June		30		32,383,815		22,274,739		896,042																	
July		31		33,974,908		32,383,815		1,051,161																	
August		31		31,979,553		33,974,908		1,051,161																	
September		30		27,076,751		31,979,553		855,210																	
October		31		21,917,397		27,076,751		803,084																	
November		30		14,405,557		21,917,397		595,378																	
December		31		14,871,229		14,405,557		479,855																	
proof				6,287		25,823		193,683		11,821		1,682		15,711		97,740		230,452		6,287		115,133			
Month:																									
January		31		1,410		15,200		1,186		117		3,739		18,383		4,648		17,227,526							
February		28		1,203		14,000		1,014		116		3,605		3,252		16,738		3,857		15,493,945					
March		31		1,481		15,407		1,144		114		780		3,816		4,408		16,912,476							
April		30		1,430		13,500		660		136		3,593		10,165		4,626		15,551,283							
May		31		1,525		15,700		968		136		1,310		8,091		9,311		22,274,739							
June		30		784		3,728		21,194		1,493		2,090		13,839		27,365		32,383,815							
July		31		730		3,652		15,500		1,246		2,330		17,230		33,974,908									
August		31		746		3,217		19,400		1,218		144		1,975		15,006		31,979,553							
September		30		637		17,840		1,107		57		1,851		12,855		21,577		27,076,751							
October		31		1,790		13,547		719		393		1,440		1,107		11,605		21,917,397							
November		30		1,634		11,857		777		382		1,440		1,601		3,696		14,405,557							
December		31		1,618		12,294		671		409		1,589		3,806		14,884		14,871,229							
proof				25,823		193,683		11,821		1,682		15,711		97,740		230,452		6,287		115,133					
Month:																									
January		31		1,410																					

Pennschuck Water Works, Inc.
DW21-023
Staff DW 1-4
7/20/2021

Manchester Water Works
Schedule of Pennschuck 60 day average daily consumption
2013

	Total	PEU Portion	PWW Portion
Average Daily Flow (Gal.) - Max. allowed	2,160,200		
Average Daily Flow (Gal.) - (2011)	1,221,396	718,602	502,794
Average Daily Flow (Gal.) - (2011)	1,568,330	963,496	604,834
Increase in 2016 (Gal.)			
Current MSDC meter station 2016	\$ 3.97	\$ 3.97	\$ 3.97
MSDC additional charge			

Consumption (Gal.):	# days in billing cycle	Consumption current period	Consumption prior period	Two (2) month Average Daily Flow
Month:				
2013 January	31	17,581,114	-	567,133
February	28	16,262,647	17,581,114	607,621
March	31	23,916,891	16,262,647	706,156
April	30	26,265,767	23,916,891	816,139
May	31	16,559,369	26,265,767	706,892
June	30	24,558,324	16,559,369	680,680
July	31	22,313,112	24,558,324	692,222
August	31	33,916,534	22,313,112	9,066,220
September	30	28,190,886	33,916,534	1,018,105
October	31	21,262,795	28,190,886	810,716
November	30	16,506,917	21,262,795	619,176
December	31	16,566,973	16,506,917	576,916

Pennschuck East Utility, Inc. (PEU)										Pennschuck Water Works, Inc. (PWW)									
Customer #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Customer #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #
Customer #95933	Loc #95934	Loc #95935	Loc #95936	Loc #95937	Loc #95938	Loc #95939	Loc #95940	Loc #95941	Loc #95942	Customer #95943	Loc #95944	Loc #95945	Loc #95946	Loc #95947	Loc #95948	Loc #95949	Loc #95950	Loc #95951	Loc #95952
Joanne Dr.	Smithwoods	Harvey Rd.	Mammoth Rd.	Cotleville Rd.	Rockingham @	Pinetown Rd.	County Rd.	County Rd.	County Rd.	Joanne Dr.	Smithwoods	Harvey Rd.	Mammoth Rd.	Cotleville Rd.	Rockingham @	Pinetown Rd.	County Rd.	County Rd.	County Rd.
Month:										Month:									
468	2,780	15,125	517	102	1,299	3,214	17,581	1,114	2,813	20,488	413	5,965	13,548	469	93	1,114	2,813	19,883	413
413	5,965	13,548	469	93	1,114	2,813	20,488	3,927	19,262,647	413	5,965	13,548	469	93	1,114	2,813	19,883	413	5,965
19,425	15,317	863	100	1,303	3,287	10,917	13,017	4,689	13,517	425	3,387	20,305	425	3,387	20,305	425	3,387	20,305	425
527	11,547	15,951	734	110	1,520	4,727	28,868	6,247	26,265,767	527	11,547	15,951	734	110	1,520	4,727	28,868	527	11,547
1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176	1,176
598	1,610	19,600	1,042	123	2,127	10,963	19,732	13,080	24,558,524	598	1,610	19,600	1,042	123	2,127	10,963	19,732	598	1,610
666	3,153	25,643	1,026	135	2,207	13,760	27,322	15,987	32,117,112	666	3,153	25,643	1,026	135	2,207	13,760	27,322	666	3,153
3,422	22,341	1,217	133	2,445	17,579	33,916	534	16,119	27,816,784	3,422	22,341	1,217	133	2,445	17,579	33,916	534	3,422	22,341
2,348	20,516	1,142	137	2,308	10,742	28,190	886	10,742	28,190,886	2,348	20,516	1,142	137	2,308	10,742	28,190	886	2,348	20,516
1,889	17,498	884	131	1,727	5,954	21,262	795	7,881	27,262,795	1,889	17,498	884	131	1,727	5,954	21,262	795	1,889	17,498
1,264	15,188	1,132	129	1,644	16,566	917	17,124	4,498	16,598,917	1,264	15,188	1,132	129	1,644	16,566	917	17,124	1,264	15,188
3,954	15,188	1,132	129	1,644	16,566	917	17,124	4,498	16,598,917	3,954	15,188	1,132	129	1,644	16,566	917	17,124	3,954	15,188
6,229	32,645	211,093	10,903	1,455	20,340	88,988	262,253	19,328	277,899,935	6,229	32,645	211,093	10,903	1,455	20,340	88,988	262,253	6,229	32,645
6,229	32,645	211,093	10,903	1,455	20,340	88,988				6,229	32,645	211,093	10,903	1,455	20,340	88,988		6,229	32,645
										proof									

Cust #	Date	Days	Days	Days	CCF	365																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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Joanne Dr.	4-Jan	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

Cust #95933 Loc #95934 Harvey Rd.	Boo Date	End Date	Days	CCF	Days Jan	Days Feb	Days Mar	Days Apr	Days May	Days June	Days July	Days August	Days Sept	Days Oct	Days Nov	Days Dec	Usage Jan	Usage Feb	Usage Mar	Usage Apr	Usage May	Usage June	Usage July	Usage August	Usage Sept	Usage Oct	Usage Nov	Usage Dec
	Days	Days	Days																									
	1-Dec	31	4	2,350	4												214.67										315	
	4-Feb	31	31	2,830	27	4			-	-	-	-	-	-	-	-	2,464.84	305.16								0	2,700	
	4-Mar	30	30	7,000			24											5,000.00	1,400.00						0	8,000		
	6-Mar	30	30	10,830				25										9,026.00	1,805.00						0	10,930		
	6-Apr	31	31	12,000					25	6									9,741.94	2,338.06						0	12,080	
	7-Jun	30	32	119,600																	(4,161.06)					0	119,020	
	7-Jun	3-Jul	26	2,884	0					0	23	3										2,551.23	332.77			0	2,884	
	6-Auto	33	33	4,011	0						0	5										3,420.24	4,011			0	4,011	
	3-Auto	3-Sep	29	3,136	0	0					0	26	3													0	3,136	
	3-Sep	3-Oct	29	3,136	0						0	27	3													0	3,136	
	3-Oct	1-Nov	29	1,528	0						0	28	3	0												0	1,528	
	1-Nov	2-Dec	31	1,524	0						0	29	2													0	1,524	
	2-Dec	2-Jan	31	29	3,700	0					0	29	2													0	3,700	
	2-Jan	22-Jan	20		0						0	29	2													0	2,900	
				34,529	31	28	31	30	31	30	31	31	30	31	30	31	2,780	5,965	15,425	11,547	(12,523)	(1,610)	3,753	3,422	30	2,249	1,689	3,984
																											3,564	32,645

Customer	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #	Loc #
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Pennschuck Water Works, Inc.
DW21-023
Staff DW 1-4
7/20/2021

Manchester Water Works Schedule of Pennschuck 60 day average daily consumption 2013			
	Total	PEU Portion	PWW Portion
Average Daily Flow (Gal.) - Max. allowed	2,160,200		
Average Daily Flow (Gal.) - (2011)	1,221,396	718,682	502,714
Average Daily Flow (Gal.) - (2011)	1,212,373	728,877	483,496
Increase in 2016 (Gal.)			
Current MSDC rate generation 2016	\$ 3.97	\$ 3.97	\$ 3.97
MSDC additional charge			

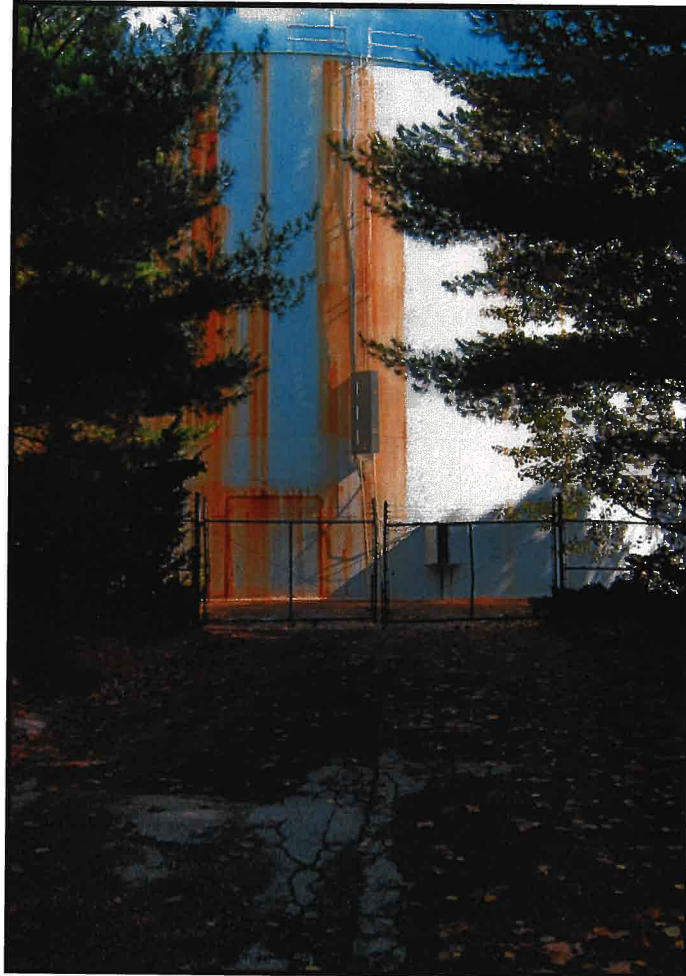
Consumption (Gal.):		# days in billing cycle	Consumption current period	Consumption prior period	Two (2) month Average Daily Flow
Month:					
2012					
January	31	16,338,293	-	-	527,042
February	28	15,406,284	16,338,293	-	538,044
March	31	16,757,591	15,406,284	546,149	
April	30	21,873,373	16,757,591	633,293	
May	31	24,981,823	21,873,373	708,115	
June	30	30,340,833	24,981,823	906,822	
July	31	40,446,094	30,340,833	1,100,442	
August	31	34,711,737	40,446,094	1,212,231	
September	30	28,482,282	34,711,737	1,053,344	
October	31	19,282,099	28,482,282	748,907	
November	30	16,809,067	19,282,099	697,888	
December	31	17,345,871	16,809,067	686,633	

Pennschuck East Utility, Inc. (PEU)										Pennschuck Water Works, Inc. (PWW)									
Cust #95953		Cust #95919		Cust #95914		Cust #125619		Cust #95953		Cust #107225		Cust #95953		Cust #95953		Cust #95953		Cust #95953	
Loc #69634		Loc #69604		Loc #69736		Loc #69736		Loc #69736		Loc #69736		Loc #69736		Loc #69736		Loc #69736		Loc #69736	
Joanne Dr.		Harvey Rd.		Rockingham @ Cotleville Rd.		Pine Ave.		Pine Ave.		Pine Ave.		Pine Ave.		Pine Ave.		Pine Ave.		Pine Ave.	
Smithwoods		Harvey Rd.		Rockingham @ Cotleville Rd.		Pine Ave.		Pine Ave.		Pine Ave.		Pine Ave.		Pine Ave.		Pine Ave.		Pine Ave.	
Month:		31	28	31	30	31	30	31	30	31	30	31	30	31	30	31	30	31	30
January	31	428	2,213	14,282	467	80	1,320	3,053	17,470	4,373	16,338,293	428	2,213	14,282	467	80	1,320	3,053	16,962
February	29	420	2,822	12,894	640	78	1,182	2,860	16,554	4,043	16,406,284	420	2,822	12,894	640	78	1,182	2,860	16,855
March	31	471	1,683	14,832	1,068	82	1,278	3,211	17,914	4,488	16,757,591	471	1,683	14,832	1,068	82	1,278	3,211	17,981
April	30	443	2,551	15,141	3,756	93	1,737	5,520	21,985	7,257	21,873,373	443	2,551	15,141	3,756	93	1,737	5,520	21,448
May	31	553	3,738	18,309	1,088	247	1,881	9,852	24,981,823	10,838	24,981,823	553	3,738	18,309	1,088	247	1,881	9,852	22,816
June	30	728	4,171	19,068	993	640	2,390	12,564	25,608	14,854	30,340,833	728	4,171	19,068	993	640	2,390	12,564	24,233
July	31	891	6,204	22,675	1,313	620	3,425	16,578	32,065	17,513	40,446,094	891	6,204	22,675	1,313	620	3,425	16,578	30,667
August	31	748	4,583	21,468	1,197	349	2,765	15,294	28,347	18,559	34,711,737	748	4,583	21,468	1,197	349	2,765	15,294	27,208
September	30	588	3,509	18,487	931	309	2,157	9,455	24,981,823	11,553	35,482,282	588	3,509	18,487	931	309	2,157	9,455	22,816
October	31	457	2,410	16,349	862	135	1,474	4,391	19,913	8,825	19,282,099	457	2,410	16,349	862	135	1,474	4,391	19,321
November	30	429	2,382	15,243	520	112	1,181	3,290	17,345,871	4,471	17,345,871	429	2,382	15,243	520	112	1,181	3,290	18,155
December	31	451	2,382	15,243	520	112	1,181	3,290	17,345,871	4,471	17,345,871	451	2,382	15,243	520	112	1,181	3,290	18,155
proof		6,005	38,099	292,234	13,449	2,891	22,045	89,455	263,874	111,000	280,655,127	6,005	38,099	292,234	13,449	2,891	22,045	89,455	284,172

Cust #95953		Cust #95953		Cust #95953		Cust #95953		Cust #95953		Cust #95953		Cust #95953		Cust #95953		Cust #95953		Cust #95953	
Loc #69634		Loc #69634		Loc #69634		Loc #69634		Loc #69634		Loc #69634		Loc #69634		Loc #69634		Loc #69634		Loc #69634	
Joanne Dr.		Joanne Dr.		Joanne Dr.		Joanne Dr.		Joanne Dr.		Joanne Dr.		Joanne Dr.		Joanne Dr.		Joanne Dr.		Joanne Dr.	
Smithwoods		Smithwoods		Smithwoods		Smithwoods		Smithwoods		Smithwoods		Smithwoods		Smithwoods		Smithwoods		Smithwoods	
Month:		31	28	31	30	31	30	31	30	31	30	31	30	31	30	31	30	31	30
January	31	428	2,213	14,282	467	80	1,320	3,053	17,470	4,373	16,338,293	428	2,213	14,282	467	80	1,320	3,053	16,962
February	29	420	2,822	12,894	640	78	1,182	2,860	16,554	4,043	16,406,284	420	2,822	12,894	640	78	1,182	2,860	16,855
March	31	471	1,683	14,832	1,068	82	1,278	3,211	17,914	4,488	16,757,591	471	1,683	14,832	1,068	82	1,278	3,211	17,981
April	30	443	2,551	15,141	3,756	93	1,737	5,520	21,985	7,257	21,873,373	443	2,551	15,141	3,756	93	1,737	5,520	21,448
May	31	553	3,738	18,309	1,088	247	1,881	9,852	24,981,823	10,838	24,981,823	553	3,738	18,309	1,088	247	1,881	9,852	22,816
June	30	728	4,171	19,068	993	640	2,390	12,564	25,608	14,854	30,340,833	728	4,171	19,068	993	640	2,390	12,564	24,233
July	31	891	6,204	22,675	1,313	620	3,425	16,578	32,065	17,513	40,446,094	891	6,204	22,675	1,313	620	3,425	16,578	30,667
August	31	748	4,583	21,468	1,197	349	2,765	15,294	28,347	18,559	34,711,737	748	4,583	21,468	1,197	349	2,765	15,294	27,208
September	30	588	3,509	18,487	931	309	2,157	9,455	24,981,823	11,553	35,482,282	588	3,509	18,487	931	309	2,157	9,455	22,816
October	31	457	2,410	16,349	862	135	1,474	4,391	19,913	8,825	19,282,099	457	2,410	16,349	862	135	1,474	4,391	19,321
November	30	429	2,382	15,243	520	112	1,181	3,290	17,345,871	4,471	17,345,871	429	2,382	15,243	520	112	1,181	3,290	18,155
December	31	451	2,382	15,243	520	112	1,181	3,290	17,345,871	4,471	17,345,871	451	2,382	15,243	520	112	1,181	3,290	18,155
proof		6,005	38,099	292,234	13,449	2,891	22,045	89,455	263,874	111,000	280,655,127	6,005	38,099	292,234	13,449	2,891	22,045	89,455	284,172

Cust #95953 Loc #69634 Newmarket	Rep Dates		Cof		Days Inv		Days Paid		Days Mat		Days Acc		Days Rev		Days Inv		Days Paid		Days Mat		Days Acc		Days Rev		Days Inv		Days Paid		Days Mat		Days Acc		Days Rev	
	Month	Days	Month	Days	Month	Days	Month	Days	Month	Days	Month	Days	Month	Days	Month	Days	Month	Days	Month	Days	Month	Days	Month	Days	Month	Days	Month	Days	Month	Days	Month	Days		
	2-Dec	10	Jan	31	10	2,290	19	14	Feb	29	14	14	Mar	31	14	14	Apr	30	14	May	31	14	14	Jun	30	14	Jul	31	14	14	Aug	31	14	14
	10-Jan	14	Feb	29	10	2,716	21	14	Mar	31	21	14	Apr	30	21	14	May	31	21	14	Jun	30	21	14	Jul	31	21	14	Aug	31	21	14	14	
	14-Feb	19	Mar	24	24	2,300	22	15	Apr	30	22	15	May	31	22	15	Jun	30	22	15	Jul	31	22	15	Aug	31	22	15	14	14	14	14	14	
	8-Mar	11	Apr	30	33	1,200	21	14	May	31	21	14	Jun	30	21	14	Jul	31	21	14	Aug	31	21	14	14	14	14	14	14	14	14	14	14	
	8-May	12	Jun	30	35	4,310	21	14	Jul	31	21	14	Aug	31	21	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	
	10-Jun	14	Jul	31	18	1,919	21	14	Aug	31	21	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	
	10-Jul	14	Aug	31	30	6,840	0	0	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	
	8-Aug	10	14	14	27	1,676	5	0	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	14	
	9-Sep	4-Oct	29	30	6,840	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	4-Oct	4-Nov	32	32	2,300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6-Nov	8-Dec	30	30	2,889	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	8-Dec	8-Jan	30	30	2,360	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	6-Jan	22-Jan	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
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TANK INDUSTRY CONSULTANTS



EVALUATION OF THE
4,500,000 GALLON STEEL GROUND STORAGE TANK
“KESSLER FARM TANK”
NASHUA, NEW HAMPSHIRE
FOR
PENNICHUCK WATER WORKS
PENNICHUCK, NEW HAMPSHIRE

October 17, 2014

14.214.L775.002

November 17, 2014

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SUBJECT:

The subject of this report is the field evaluation of the 4,500,000 gallon steel ground storage tank in Nashua, New Hampshire. The tank was owned by the Pennichuck Water Works, Inc., and was known as the "Kessler Farm Tank." The field evaluation was performed on October 17, 2014 by Gregory P. Cannon and Adam C. Miner of Tank Industry Consultants. The Owner's representative on the site at the time of the field evaluation was Victoria Hawkes. The column and rafter supported roof tank was of welded steel construction. According to information on the tank nameplate, the tank was built in 1987 by Advance Tank Company under contract number 5086 and had a capacity of 4,500,000 gallons. The tank nameplate also stated that the tank diameter was 120 ft, and the nominal shell height was 54 ft. cursory calculations indicated the tank was designed using an alternative design basis which includes using higher allowable stresses and joint efficiencies.

OBJECTIVE:

The purpose of this evaluation was to determine the condition of the tank interior, exterior, exposed foundation, and accessories. As the tank could not be drained for the field evaluation, the interior was evaluated by a remotely operated vehicle (ROV). Therefore, only the shell and floor surfaces visible by use of the ROV were observed. The purpose of this report is to present the findings of the evaluation and to make recommendations for recoating, repairing, corrosion protection, and maintenance. Budget estimates for the work, anticipated life of the coating and the structure, and the replacement cost of the tank are also included.

AUTHORIZATION:

This evaluation and report were authorized in the Tank Industry Consultants Standard Form of Agreement dated October 8, 2014 and signed by John Boisvert.

EXECUTIVE SUMMARY:

The exterior coating system appeared to be providing very little corrosion protection to the majority of the steel surfaces. The exterior of the tank should be repainted within the next year. The visible coating on the interior surfaces of the tank appeared to be in fair overall condition with corrosion and extensive staining noted. Corrosion and metal loss is of even greater concern since the tank appears to have been constructed with a high-strength steel. Tank Industry Consultants recommends that the interior surfaces of this tank should be recoated in 2 to 3 years. However, it would likely be most economical to repaint the exterior and interior at the time same time.

ANSI/OSHA and Safety-Related Deficiencies: There were OSHA and safety-related deficiencies on this tank. These deficiencies included:

- ◆ cable and conduit were attached to the ladder which could interfere with the unrestricted use of the side rails by the climber (29 CFR 1910.27(b)(2)), and
- ◆ the gap between the roof and toe bar was greater than the maximum allowed 1/4 in. (29 CFR 1910.23(e)(4)).

If the Owner wishes to fully comply with OSHA and safety-related standards, it is recommended that these deficiencies be rectified.

AWWA and Operational Deficiencies: An operating deficiency was noted at the time of the field evaluation:

- ◆ the overflow pipe did not have a sufficient air break.

The safety-related, sanitary, and operating deficiencies listed above are not intended to be a complete list of deficiencies on this tank. The Owner should refer to the complete report text and accompanying photographs for a complete account of all observed deficiencies.

This evaluation and the reporting of the condition of this tank do not warrant the original structural condition of the tank or any of the original design for seismic loadings. Likewise, recommendations for this tank do not include modifications which may be required for compliance with present structural codes.

PHOTOGRAPHS:

Color photographs were taken of the visible portions of the foundation, the tank interior and exterior and are included as a part of this report. The significant photographs are keyed to the observations. Photographs taken from the ROV video are included as a part of this report.

NOMENCLATURE:

The terms used in describing the various components of steel water tanks are unique to the industry. In fact, the terms vary from firm to firm and from person to person. In an attempt to define the terms used in this report, a sketch of the general type of tank covered is included at the end of the narrative portion of this report. Each horizontal row of steel plates on the tank is referred to as a "shell ring" or "ring." To aid in referencing the shell rings, the bottom ring is referred to as shell ring 1 and the top ring is shell ring 7. **Warning: Some appurtenances on this tank may be referred to as erection or rigging attachments, lugs, or brackets. This does not mean that they are safe for rigging. Each attachment for each tank should be evaluated on an individual basis by a structural engineer or an experienced rigger before being used. These devices may have been intended for only the original erectors and painters to use with specialized equipment.**

ADHESION TESTS:

All adhesion tests performed during this evaluation were done in general accordance with ASTM D3359. The results are reported herein using the ASTM scale. The ASTM scale is a relative scale to rate adhesion from 0 to 5 with 5 being the best. A table of adhesion test results classification is included with this report following the sketch of the tank.

HEAVY METALS TESTS:

Samples of the exterior and interior coating systems were sent to a laboratory for inductively coupled plasma-atomic emission spectrometry analyses. The test results were as follows:

	Cadmium		Chromium		Lead	
	mg/kg	percent	mg/kg	percent	mg/kg	Percent
Exterior	<25	<0.0025%	<250	<0.025%	<250	<0.025%
Interior	<25	<0.0025%	<250	<0.025%	<250	<0.025%

Tank Industry Consultants performs this test only to determine if there is lead, cadmium, or chromium present in the coating samples. To limit damage to the existing coating, only small areas were tested. The small number of samples taken and the difficulty of retrieving all primer from the steel profile may cause the tests performed to not accurately represent the total coating system. Variations in thickness, types of coatings applied, and the interim cleaning and painting operations will also affect the actual readings. The reliability of the results is also dependent on the amount of primer included in the sample. The Consumer Product Safety Commission specifies that an amount greater than 0.06% lead is considered potentially hazardous. Additional testing to determine the amount of leachable contaminants present in the spent cleaning debris will need to be performed following cleaning operations at the time of repainting. Results from the laboratory analysis are included following the adhesion tables.

ULTRASONIC THICKNESS MEASUREMENTS:

(all readings were taken through coating)

Roof Plates:	0.263 in. to 0.265 in.
Shell:	
Ring #7:	0.319 in. to 0.322 in.
Ring #6:	0.488 in. to 0.496 in.
Ring #5:	0.555 in. to 0.564 in.
Ring #4:	0.603 in. to 0.616 in.
Ring #3:	0.682 in. to 0.692 in.
Ring #2:	0.729 in. to 0.731 in.
Ring #1:	0.797 in. to 0.806 in., bottom
Bottom Plate:	0.359 in. to 0.360 in.

OBSERVATIONS:

A. Foundation and Site

SITE:

Size: approx. 200 ft diameter

Fence:

Type: chain link, with 3 strands of barbed wire

Height: 6 ft

Gates:

Number: 2

Northeast Gate: 19 ft wide

West: 20 ft wide

Locked: yes

Nearest Structures:

Type: communications building

Direction: east

Distance: approx. 19 ft

Type: propane tank

Direction: southeast

Distance: approx. 22 ft

Type: residences

Direction: east

Distance: approx. 100 ft

Nearest Overhead Power Lines:

Direction: west

Distance: approx. 49 ft

FOUNDATION:

Type: concrete ringwall

Projection Above Grade:

North: 3-1/2 in. to 6-1/2 in.

South: 5-1/2 in. to 7-1/4 in.

East: 4-1/4 in. to 5-1/2 in.

West: 5-1/4 in. to 7 in.

Grout: 3/4 in. to 1-1/8 in.

Sealant: none visible

Fiberboard: none visible

1. **Site Location:** The tank was located off of Kessler Farm Road in Nashua, New Hampshire. The site was located in a wooded and residential area with the nearest residences located east of the site. Overhead power lines were located west of the site. (See photos 2-3)

2. **Site Conditions:** The tank was surrounded by an approximately 14 ft wide asphalt skirt. The site was sloped towards a drainage ditch around the tank. The tank site was enclosed by a chain link fence which was topped with barbed wire and had two locked gates on the northeast and west sides of the site. Vegetation had grown into the site fence. A communications building and propane tank were located on the site south of the tank, and a pump house was located on the west side of the site. (See photos 1, 4)

3. **Foundation:** The tank foundation appeared to be a concrete ringwall. Several areas of cracking and isolated areas of spalling were observed in the concrete foundation at the time of this field evaluation. The foundation did not precisely exhibit the AWWA recommended 6 in. to 12 in. projection above grade. The foundation had been coated, and the coating had peeled in several areas. Mildew was also observed. An unused cable and clip were lying on the foundation. (See photos 5-8)

4. **Grout:** There was a pad of grout between the tank bottom plate and the concrete foundation. The grout appeared to be in fair to poor condition as popping and cracking were observed. The grout had been painted. No sealant was located at the grout-to-bottom plate interface. (See photos 5-8)

B. Exterior Surfaces

DESCRIPTION:

Construction: welded steel
 Diameter: approx. 120 ft
 Shell Height: approx. 54 ft
 Shell Rings: 7
 Roof Type: column and rafter supported

NAMEPLATE:

Location: above shell manhole on west side of shell

Advance		
Tank Company		
AWWA D100 C		
1987	5086	
Year	Contract	Heat Treat.
	120-0	54-0
	Diameter	Height
	4.5 Mils. Gals.	
Nom. Capacity Gals.		Material

ANCHOR BOLTS: none

BOTTOM PLATE PROJECTION: 1-1/4 in. to 1-1/2 in. from shell

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SHELL MANHOLES:

Number: 2
Locations: east and west sides of shell ring #1
Type: single-crab
Size: 24 in. diameter
Neck: 11-1/4 in. projection from shell x 1-3/8 in. thick
Bolt: 1 in. diameter x 14-1/2 in. long
Cover Plate:
Size: 27-1/4 in. diameter x 1 in. thick
Hinged: yes, interior

OVERFLOW PIPE:

Size: 16 in. diameter
Elastomeric Check Valve: yes
Brackets:
Size: 3 in. x 5/8 in., flat bar x 12-1/2 in. long
Spacing: approx. 8 ft
Drain Pipe: 16 in. diameter

EXTERIOR LADDER:

Number of Rungs: 43
Distance From Ground to Lowest Rung: approx. 12 ft 5 in.
Width: 18 in.
Side Rails: 2-1/2 in. x 3/8 in., flat bar
Rung Size: 3/4 in. diameter
Spacing: 12 in. on center
Toe Room: 7-3/4 in.
Brackets:
Construction: welded
Size: 3 in. x 1/2 in., flat bar x 8 in. long
Spacing: approx. 8 ft
Safe-Climbing Device: notched-tubular rail
Safety Cage: none
Vandal Deterrent:
Type: aluminum ladder gate
Length: 8 ft
Locked: yes

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ROOF SAFETY RAILING:

Handrail:

Height: 42 in.

Size: 2-1/2 in. x 2-1/2 in. x 1/4 in., angle

Uprights: 2-1/2 in. x 2-1/2 in. x 1/4 in., angle

Mid-Rail: 2-1/2 in. x 2-1/2 in. x 1/4 in., angle

Toe Bar:

Size: 4 in. x 1/4 in., flat bar

Height Above Roof: 4-5/8 in.

Access Opening:

Width: 27-1/2 in.

Closure Chains: yes

ROOF OPENINGS:

Manholes #1 and #2:

Locations: south and west sides of roof

Size: 24 in. diameter

Type: hinged

Curb: 6 in.

Welded: exterior only

Overlap: 2 in.

Locked: yes

Manhole #3:

Size: 33-1/2 in. x 41-1/2 in.

Type: hinged

Curb: 6 in.

Cover Overlap: 2 in.

Locked: yes

Roof Vent:

Type: clog-resistant

Neck Height: 5-3/4 in.

Neck Diameter: 24 in.

Screen:

Orientation: horizontal

Size: 16 x 16 mesh

Cover: 48 in. diameter

ROOF OBSTRUCTION LIGHTS:

Type: double-globe

Location: on roof vent

Manufacturer: Hughey & Phillips, Inc.

Model Number: OB22

Operational: unknown

Photoelectric Cell: not found

EXTERIOR COATING AND METAL CONDITION:

	Coating Thickness		Approx. % Failure to		Adhesion	Metal Loss	
	Range	Typical	Underlying Coating	Rust		Typical	Deepest
Shell	7 mils to 19.5 mils	11.5 mils	Neg.	80%	2 S	Neg.	Neg.
Roof	6.5 mils to 15 mils	10 mils	Neg.	70%	0 T	Neg.	Neg.

Key to Table

Adhesion	5 (very good)	T = Topcoat to Underlying Coating	Neg. = negligible
	4 (good)		
	3 (fair)	S = Primer to Steel	
	2 (poor)		
	1 (very poor)		
	0 (very poor)		

1. **Exterior Coating Condition:** The coating on the exterior of the tank appeared to be in poor condition with widespread areas of rust staining observed. The exterior coating exhibited very poor to poor adhesion to the underlying coating and steel.

2. **Bottom Plate:** The tank bottom plate extension appeared to be in nearly its original condition at the time of the field evaluation. Widespread areas of corrosion and peeled coating were noted. A grounding cable was located on the west side of the bottom plate. An unused clip and cable were lying on the bottom plate. (See photos 5-8)

3. **Shell Condition:** The contour of the tank shell was irregular as peaking, banding, and flat spots were noted. The coating was in poor condition with extensive areas of rust staining and corrosion noted. The topcoating had chalked, checked, and peeled. Debris was observed in the coating. The coating exhibited poor adhesion to the steel. A tank nameplate was attached to a bracket which was located on the west side of shell ring #1 above the shell manhole. A cabinet was located on the west side of the bottom shell ring which had a lock. An approximately 9 ft x 9 ft 6 in. welded steel door sheet was located on the lower side of the west shell. The door sheet corners were rounded, and the door sheet was rusty. An unused cabinet bracket and a threaded and plugged coupling were located on the west side of the shell. (See photos 9-16, 24)

4. **Shell Manholes:** The tank was equipped with two single-crab circular manholes located on the west and east sides of the tank. The shell plate around the manholes was not equipped with a reinforcing plate. The manhole covers were equipped with hinged support arms located on the interior of the tank. (See photos 15, 17)

5. **Overflow Pipe:** There was an operational deficiency noted: the overflow pipe air break was insufficient. The overflow pipe exited through the top shell ring and extended down the shell before discharging within a drain pipe. The discharge end of the overflow pipe was equipped with an elastomeric check valve which was partially located in the drain pipe. The pipe was equipped with welded steel brackets which appeared to be in their original structural condition at the time of this field evaluation. Corrosion was observed on the overflow pipe. Coaxial cables extended up the overflow pipes to three antennas attached to the upper part of the overflow pipe. (See photos 18-19, 25)

6. **Exterior Shell Ladder:** There was a safety and OSHA deficiency noted: a coaxial cable and conduit were attached to the ladder which could interfere with the unrestricted use of the side rails by the climber. The ladder was equipped with a notched-tubular safe-climbing device. The exterior ladder was welded to brackets which were welded to the shell. The exterior ladder and brackets appeared to be in nearly their original structural condition at the time of this field evaluation. The ladder was equipped with a ladder gate-type vandal deterrent which was locked. The vandal deterrent included side panels which were rusty. (See photos 20-23)

7. **Roof Safety Railing:** There was a safety-related or OSHA deficiency noted: the gap between the roof and toe bar was greater than the maximum allowed 1/4 in. The roof was equipped with a safety railing at the roof access adjacent to the roof manhole. The safety railing was constructed from welded angle and flat bar members. An antenna was attached to the safety railing on the west side of the roof. (See photo 26)

8. **Roof Condition:** The contour of the roof was adequate at the time of this evaluation. The roof coating was in very poor condition with widespread corrosion noted. The coating had peeled, cracked, and checked, and it exhibited very poor adhesion to the underlying coating. Numerous threaded and plugged couplings were located in the roof. (See photos 28, 31-35)

9. **Obstruction Lights:** There was a double-globe obstruction light located on the roof vent. Conduit extended along the roof to the light. The lights were not illuminated at the time of the field evaluation, and a photoelectric cell was not found. The lights were located below the antenna level height. (See photos 36, 38)

10. **Roof Manholes:** The roof was equipped with three manholes which were equipped with hinged and locked covers. The manholes were located on the west, south, and northeast sides of the roof. The roof manholes were welded on the exterior only. Corrosion was present on the manhole surfaces. (See photos 26-30)

11. **Roof Vent:** The roof was equipped with a clog-resistant vent in the approximate center of the roof. The vent pallet and screening were in good condition at the time of the field evaluation. (See photos 36-37)

C. Interior Surfaces

ROOF SUPPORT SYSTEM:

Main Rafters:

Number: 32

Size: 8 in. x 2 in., channel

Attachment Clips:

Size: 4 in. x 4 in. x 3/8 in., angle

Bolts: 5/8 in. diameter

Secondary Rafters:

Number: 64

Size: 12 in. x 4 in., I-beams

Center Hub: approx. 5 ft diameter

Center Column:

Type: two channels intermittently welded together to form a T-shape

Channel Size: 11 in. and 3-1/2 in.

Outer Column:

Number: 8

Type: two channels intermittently welded together to form a T-shape

Channel Size: 11 in. and 3-1/2 in.

TOP SHELL ANGLE:

Size: 3 in. x 3 in. x 3/8 in.

Orientation: leg out

INTERIOR LADDER: none

CATHODIC PROTECTION: none

OVERFLOW:

Inlet Type: weir box

Location: approx. 1 ft below the roof-to-shell connection

INLET/OUTLET PIPE:

Size: 24 in. diameter

Protective Cover: yes, grate-type

INTERIOR COATING AND METAL CONDITION:

	Coating Thickness		Approx. % Failure to		Adhesion	Metal Loss	
	Range	Typical	Primer	Rust		Typical	Deepest
Roof	11 mils to 19 mils	13.5 mils	Neg.	< 1/2%	4 S	Neg.	Neg.
Shell	11 mils to 26.5 mils	15.5 mils	Neg.	< 1/2%	4 S	Neg.	Neg.

Key to Table

Adhesion	5 (very good)	T = Topcoat to Underlying Coating	Neg. = negligible
	4 (good)		
	3 (fair)	S = Primer to Steel	
	2 (poor)		
	1 (very poor)		
	0 (very poor)		

1. **Interior Coating Condition:** The tank was not drained for the field evaluation, and the interior evaluation was performed by an ROV. The evaluation of the floor was significantly limited by the presence of silt which prevented most of the floor surfaces from being visible. The coating on the interior surfaces of the tank appeared to be in fair overall condition with corrosion and extensive staining noted. The interior coating exhibited good adhesion to the steel.

2. **Roof Condition:** The coating on the roof plates appeared to be in fair overall condition. Minor corrosion and rust staining were noted along the top of the roof structure members, along the roof plate lap seams, and along the structure member edges. The interior roof support structure consisted of a center column, one circle of outer columns, an inner and outer set of roof rafters, and circumferential girders. The inner ends of the roof rafters were located on top of a center hub which was located at the top of the center column. The outer columns supported the circumferential girders on which the intermediate ends of the radial roof rafters rested. The outer ends of the rafters were bolted to steel clips which were welded to the shell. Corrosion and rust staining were observed at this connection. Seam sealant was located along the roof support structure members and along the roof-to-shell connection. Corrosion and rust staining were located along the roof-to-shell connection. (See photos 39-48, 58-61)

3. **Shell Condition:** The coating on the shell interior appeared to be in fair overall condition. There were extensive areas of rust staining noted, and the shell coating was discolored due to mineral staining from the water. A top shell angle was located around the roof-to-shell connection. Rust staining had streaked down from the roof-to-shell connection and rafter ends onto the upper shell surfaces. (See photos 49, 51-57)

4. **Overflow Pipe:** The overflow pipe was equipped with a weir box inlet. The location of the overflow inlet was such that the top capacity level was below the shell-to-roof connection. Rust staining was located on the interior of the weir box. (See photo 50)

5. **Bottom Plate Condition:** The floor could not be viewed due to a layer of silt. (See photo 56-57)

6. **Inlet/Outlet Pipe:** The inlet/outlet pipe was located in the tank floor. The inlet/outlet pipe was equipped with a grate cover. Corrosion was present on the pipe projection. (See photo 60)

RECOMMENDATIONS:

A. Foundation and Site

1. **Site Maintenance:** The site should be regraded so that the top of the foundation projects a minimum of 6 in. to a maximum of 12 in. above grade and so that proper drainage away from the foundation occurs. The vegetation should be removed from the site fence. Appropriate precautions should be taken for the work operations around the propane tank.

2. **Tank and Site Security:** Water tanks have been defined by some courts under certain circumstances as attractive nuisances. As such, there may be a significant potential liability to the Owner for injury to persons on the tank and tank site, even if access is not authorized. Recent events have prompted the entire water industry to consider measures that inhibit intentional acts that could threaten the water supply. A review of the security requirements for the tank and site is recommended to confirm that the existing measures are consistent with the Owner's security requirements for their water system. Primary tank and site security should be focused on eliminating, preventing, and detecting unauthorized access to the tank. Such security measures might include routinely and periodically verifying all manholes and gates are locked, and all exterior ladders have suitable deterrents. Other security measures might include installing no-trespass signs, site lighting, motion detectors, surveillance cameras, installing alarms on gates and tank manholes, and arranging more frequent site visits by law enforcement agencies.

3. **Antennas:** The number and placement of the antennas, cables, and other associated equipment mounted on this tank will complicate the repainting of the tank. If left in place the antennas, cables, and related equipment may be damaged even though steps are taken to protect the components from blasting and other work related activities. Leaving this equipment in place will also increase the cost and duration of the project. If possible, it is recommended that the antennas and antenna cables be removed prior to the work and reinstalled [away from the ladders] at the completion of the project. At a minimum, the equipment should be de-energized during work to minimize the workers exposure to radio frequencies (RF). The contract between the Owner and the antenna companies will need to be reviewed to determine if removal and de-energization is possible and who bears responsibility for the cost and liability of the equipment removal. If possible, lease requirements regarding all equipment relocation should be written in advance of all rehabilitation operations. If the equipment cannot be removed, it will need to be determined who bears the cost and liability for removing or replacing any equipment that becomes damaged during work operations. Additional considerations during work operations will also be required including worker exposures to RF emissions which may shorten workdays; how to place and construct containment to prevent fugitive dust emissions; and adequately cleaning and painting in the hard to reach areas created by the locations of this equipment.

4. **Foundation:** When the tank exterior is repainted, any unsound concrete should be chipped to sound material and the concrete should be brush-off blasted. Any deteriorated areas or voids found should have a bonding agent and a vinyl emollient modified concrete patching mortar applied to build up the surface to its original contour. The concrete should then be painted with a concrete sealer. The unused cable and clip should be removed from the foundation.

5. **Grout Maintenance:** All loose grout should be chipped away to solid material when the tank is empty. Any shim plates which can be easily removed should be taken out. Any voids in the grout should be filled with a nonshrinking, nonstaining, structural grout material. The grout should be placed as far back under the bottom plate as possible and squared off vertically with the edge of the bottom plate. Any gap between the steel bottom plate and the grout should be filled with a flexible sealant.

B. Exterior Surfaces

1. **Life of the Exterior Coating:** The exterior coating system appeared to be providing very little corrosion protection to the majority of the steel surfaces. Tank Industry Consultants believes that the exterior of the tank should be repainted within the next year. Due to the very poor to poor adhesion of the existing exterior coating, spot cleaning and topcoating is not recommended. The exterior coating system should be evaluated immediately prior to preparing specifications to determine if the coating adhesion is still adequate to accept a topcoat.

2. **Coating Testing:** Prior to preparation of specifications for the cleaning and coating of the exterior of the tank, samples of the exterior coating system should be subjected to laboratory analysis to test for ingredients which may at that time be subject to regulations concerning their handling and disposal.

3. **Cleaning:** When the exterior is to be cleaned, all varieties of containment should be investigated. Containment of the wind-blown debris and paint droplets may be required due to the proximity of the adjacent residences.

4. Recommended Coating System:

a. **Complete Cleaning and Repainting:** The optimum long-life coating system presently available for this site is an epoxy-polyurethane coating system. Properly formulated and applied polyurethanes have good resistance to condensation, mildew, and chipping. The polyurethanes also have excellent color and gloss retention and the longest expected service life of any of the common exterior tank coatings. The typical life of a properly applied epoxy-polyurethane coating system is approximately 15 to 20 years. These coatings are also presently manufactured to meet current VOC requirements.

b. **Coating Application:** The entire tank exterior should be cleaned to the equivalent of an SSPC-SP 6, Commercial Blast Cleaning and have an epoxy-primed, epoxy intermediate and polyurethane finish coating system applied. However, care must be taken during the application of this particular coating system because this coating does have poor dry-fall characteristics, and potential damage to the surrounding property must be taken into consideration. The polyurethane coatings also require close monitoring of temperature and humidity during application.

5. **Effective Service Life:** Tank Industry Consultants defines the life of a coating as the amount of time before repainting becomes necessary due to coating failure and corrosion. During the coating life the Owner should expect the coating to lose its gloss, start to chalk, show signs of weathering, and possibly some rust staining. Future touch-up may be required on isolated coating

failures. If aesthetics are a concern, the Owner may have to topcoat the repainted tank prior to the end of the expected service life. However, future topcoating would be less expensive than complete cleaning and recoating and could delay the next complete cleaning and repainting for many years.

6. **Other Systems:** With air emission volatile organic compounds (VOC) restrictions being put in place around the nation, alternative coating systems may become available which would be viable options for this tank. The Owner should review the available systems prior to preparing specifications for the recoating project.

7. **Coating Curing:** It would be more economical to paint the tank exterior at the same time the interior is painted, since the tank must be drained while the exterior is painted, and the applied coatings cure. This will also reduce mobilization and observation costs.

8. **Rehabilitation Schedule:** To obtain the lowest possible prices for the work outlined in the recommendations, the Owner should have the specifications prepared and the work bid in the spring, with the work scheduled to start in early summer (if possible).

9. **Grinding and Bracket Removal:** Any unused brackets or erection lugs should be removed prior to the exterior repainting. Any weld burrs, weld spatter, or erection scars should be ground off to provide a smooth surface for the application of the coating.

10. **Nameplate:** The tank nameplate should be removed for the cleaning and coating of the tank. The nameplate should be cleaned and reattached to the tank using the existing bracket.

11. **Electrical Apparatus:** All unused electrical conduit, antennas, fixtures, electrical metering equipment, and control cabinets should be removed from the tank and tank site. All required equipment should be repaired and maintained in accordance with the National Electric Code (NEC).

12. **Existing Shell Manholes:** At the time of recoating and repairs, the gaskets for the shell manholes should be replaced, and the hinged support arms relocated to the exterior.

13. **Additional Shell Manholes:** Tank Industry Consultants interprets OSHA standards as defining a water storage tank as a confined space, and as such, a sufficient means of emergency egress and ventilation during cleaning and coating operations is required. Therefore, the tank should be equipped with two new hinged shell manholes. The additional manholes and covers should be 30 in. in diameter, should be designed in accordance with current industry and safety standards, should be hinged, and should be located approximately 90 degrees from the existing shell manholes.

14. **Overflow Pipe:** The overflow pipe should be modified so that it has an approximately 12 in. to 24 in. air break.

15. **Exterior Ladder:** The electrical conduit and cables should be relocated away from the side rails.

16. **Roof Safety Railing:** The toe bar should be lowered so the gap between it and the roof is less than 1/4 in.

17. **Clog-Resistant Vent:** The proper operation of the clog-resistant vent should be periodically verified.

18. **Obstruction Lights:** The Owner should file a FAA Form 7460 to verify the need for obstruction lighting on the tank. If the lighting is required, new bulbs and globes should be installed, as well as a photoelectric cell to reduce bulb maintenance costs. The lights should be relocated to be the tallest point of the tank. If the lighting is not required, the light assembly and all associated conduits and brackets should be removed.

C. Interior Surfaces

Preface to Interior Recommendations: The interior surfaces below the top capacity level were evaluated by an ROV as the Owner could not drain the tank. However, the ROV evaluation was limited by the deep layer of silt located on the tank floor rendering none of the floor coating visible. Therefore, prior to the preparation of specifications for interior rehabilitation work, the tank should be drained, washed out and thoroughly evaluated to more accurately determine the scope of work required. A complete evaluation of the interior would also reduce the number of potential change orders, and reduce the overall amount of the bids by eliminating uncertainty about the condition of the coating and steel.

1. **Life of the Interior Coating:** The visible coating on the interior surfaces of the tank appeared to be in fair overall condition with corrosion and extensive staining noted. Corrosion and metal loss is of even greater concern since the tank appears to have been constructed with a high-strength steel. Tank Industry Consultants recommends that the interior surfaces of this tank should be recoated in 2 to 3 years. It is recommended that when the interior is completely cleaned and repainted, an epoxy coating system should be used.

2. **Coating Testing:** Prior to preparation of specifications for the cleaning and coating of the interior of the tank, samples of the interior coating system should be subjected to laboratory analysis to test for ingredients which may at that time be subject to regulations concerning their handling and disposal.

3. **Recommended Interior Coating System:**

a. **Epoxy Coating System:** The optimum long-life coating system presently available for the interior of water tanks is a two-component epoxy coating system. A two-coat epoxy system is recommended for the interior of this tank. This coating system should meet the certification criteria of ANSI/NSF 61 and state department of health regulations.

b. **Coating Application:** When the interior is to be repainted, the entire tank interior should be cleaned to the equivalent of an SSPC-SP 10, Near-White Blast Cleaning and an epoxy coating system applied.

c. **Service Life:** The typical life of a properly formulated and applied epoxy coating system is approximately 12 to 15 years in immersion service. Tank Industry Consultants defines the life of a coating as the expected service life before repainting becomes necessary due to coating failure and corrosion. The Owner could extend the service life of the coating by installing, properly maintaining and operating a cathodic protection system to help protect the steel surfaces in areas which have experienced coating failure.

4. **Cathodic Protection:** When the tank is rehabilitated the brackets and fittings should be installed for the future installation of a cathodic protection system.

a. **Type:** When the cathodic protection system is installed, an ice-resistant cathodic protection system which features long-life anodes, automatic potential and current control should be specified.

b. **Scheduling:** After the interior is completely cleaned and recoated, the cathodic protection system should not be energized until after the First Anniversary Evaluation. The Owner should conduct washouts and evaluations approximately every 3 years to monitor the need for cathodic protection. As the interior coating begins to show signs of failure, the cathodic protection system should be energized to aid in minimizing corrosion below the top capacity level.

c. **Maintenance:** Cathodic protection, if used and maintained properly, will control active corrosion below the water level and extend the useful life of a coating system. It should be noted that maintenance as recommended by the cathodic protection manufacturer is required for the cathodic protection system to work properly. Without proper monitoring, the cathodic protection system may operate too high and cause the coating to blister, or the system may operate too low and not adequately protect the exposed steel surfaces.

5. **Pit Welding and Pit Filling:** After initial cleaning, all significant pitting which is found should be welded, and all pitting with rough edges that would make the pitting difficult to coat properly should be filled with a solventless epoxy seam sealer.

6. **Rough Edges:** All unused brackets should be removed from the interior and exterior surfaces at the time of the next recoating. Any weld burrs, spatter, scars or rough edges in the steel should be ground smooth to provide a better surface for coating.

7. **Roof Support Structure:** After abrasive blast cleaning, the roof support structure should be carefully evaluated as metal loss repairs may be necessary at areas where the metal loss was not previous visible.

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ECONOMIC FACTORS:

<u>Item</u>	<u>Cost</u>	<u>Life in Years</u>
Replacement of tank with a new one	\$ 5,250,000 ¹	75+

The following is a complete list of repairs and estimated costs for their respective recommendations found in the RECOMMENDATION section of this report.

Item	Sanitary & Safety	Scheduled Maintenance Repairs
Clean and Paint Exterior:		
SP 6, Complete Clean, Epoxy/Polyurethane System		\$ 375,000
Containment		100,000
Clean and Paint Interior:		
SP 10, 2-Coat Epoxy System		500,000
Cathodic Protection System		18,000
Miscellaneous Chipping and Grinding		5,000
Pit Repair Contingency		3,000
Grout Repair		5,000
Foundation Repair		10,000
Enlarge Overflow Pipe Air Break	\$ 1,000	
Relocate Conduit and Cable from Exterior Ladder	1,000	
Lower Tower Bar on Roof Safety Railing	2,000	
Install Additional Shell Manholes (2)	16,000	
Contingency Items	5,000	10,000

Estimates are believed to be a high average of bids that would be received in 2014.

¹ The replacement estimate includes costs associated with new tank fabrication and erection, foundation, painting, and engineering. The budget estimate given does not include costs associated with tank demolition, site acquisition, and distribution interruptions.

4,500,000 Gallon Ground Storage Tank, "Kessler Farms Tank"
Pennichuck Water Works, Nashua, New Hampshire

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14.214.L775.002

The following economic factors include only those work items that the Engineer believes to be the minimum to properly maintain this tank from an operational standpoint. Other items related to safety and risk management should be evaluated by the Owner.

Item	Cost
Clean and Paint Exterior:	
SP 6, Complete Clean, Epoxy/Polyurethane System	\$ 375,000
Containment	100,000
Clean and Paint Interior:	
SP 10, 2-Coat Epoxy System	500,000
Cathodic Protection System	25,000
Miscellaneous Chipping and Grinding	5,000
Pit Repair Contingency	3,000
Grout Repair	5,000
Foundation Repair	10,000
Enlarge Overflow Pipe Air Break	1,000
Relocate Conduit and Cable from Exterior Ladder	1,000
Lower Tower Bar on Roof Safety Railing	2,000
Install Additional Shell Manholes (2)	16,000
Contingency Items	15,000
Total of Engineer's Recommendations	\$ 1,058,000

Tank Industry Consultants has no control over the cost of labor, materials, or equipment, or over the contractors' methods of determining prices, or over competitive bidding, or the market conditions. Opinions of probable cost, as provided for herein, are to be made on the basis of our experience and qualifications and represent our best judgment as design professionals familiar with the design, maintenance, and construction of concrete and steel plate structures. However, Tank Industry Consultants cannot and does not guarantee that proposals, bids, or the construction cost will not vary from opinions of probable cost prepared for the Owner.

Due to the numerous potential scopes of work which exist, the Owner should obtain an updated budget estimate once the final scope of work has been determined. This would enable the Owner to accurately budget monies for additional mobilization costs and damaged coating rehabilitation costs.

Engineering and resident observation costs are not included in the Total of the Engineer's Recommendations because these fees are dependent upon the scope of work to be performed. Tank Industry Consultants performs all facets of the engineering services which would be required for this project. Estimated fees for engineering and resident observation will be furnished upon request.

CLOSURE:

Brief Summation: Pennichuck Water Works owns and operates a 4,500,000 gallon ground storage tank. The exterior coating system appeared to be providing very little corrosion protection to the majority of the steel surfaces. The exterior of the tank should be repainted within the next year. Proper maintenance after completing the recommendations herein would include periodic washouts and evaluations approximately every 3 to 5 years in accordance with AWWA recommendations, and the

installation and proper maintenance of a new ice-resistant cathodic protection system with long-life anodes.

Contractor Selection: The work should be performed by a competent bonded contractor, chosen from competitive bids taken on complete and concise specifications. The coatings used should be furnished by an experienced water tank coating manufacturer, supplying the field service required for application of technical coatings.

Standards for Repairs and Coatings: All work done and coatings applied should be applied in accordance with NACE, ANSI/NSF Standard 61, the manufacturer's recommendation, AWWA D100 and AWWA D102 (latest revisions), and the SSPC: The Society for Protective Coatings.

Observation of Work: Observation of the work in progress by experienced personnel will offer additional assurance of quality protective coating application. Observations can be performed on a continuous basis or spot (critical phase) basis. The actual cost of observation may be less using spot as opposed to full-time resident observation; however, with spot observation it is often necessary for work to be redone to comply with the specifications. This somewhat lowers the quality of the finished product, lengthens the job, and is frequently a cause of conflict between the contractor, Owner, and field technician. Resident full-time observation minimizes the amount of "rework" required.

Anniversary and Maintenance Evaluations: An anniversary evaluation should be conducted prior to the end of the one year bonded guarantee. Washouts and coating, structural, sanitary, safety, and corrosion evaluations should be conducted not less than every three years.

Time Frame: If the work is not performed within the next 12 months, the structure should be reevaluated prior to the preparation of specifications and solicitation of bids.

Specifications and Bidding Documents: The recommendations in this report are not intended to be specifications on which a contractor can bid. Complete bidding documents must include general and special conditions, detailed technical specifications, and other information necessary for the competitive bidding process. To properly protect the interests of the Owner, Contractor, and Engineer; the initial evaluation, the technical specifications, legal portions of the contract documents, and the observation should be performed by the same firm or with close coordination of all parties involved.

Limitations of Evaluation: It is believed that the conditions reported herein reflect the condition of the tank as observed on the date of the evaluation, using reasonable care in making the observations, and safety in gaining access to the tank. Should latent defects be discovered during the cleaning of the structure, they should be brought to the attention of the Owner and the Engineer.

Seismic and Wind Loadings: This tank is located in or near a region of moderate seismic activity. This evaluation and the reporting of the condition of this tank do not warrant the structural condition of the tank or any of the original design for seismic loadings. Likewise, recommendations for this tank do not include modifications which may be required for compliance with present structural codes. It is possible the tank was erected in compliance with pre-existing industry standards which have since been replaced by more restrictive standards.

4,500,000 Gallon Ground Storage Tank, "Kessler Farms Tank"
Pennichuck Water Works, Nashua, New Hampshire

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14.214.L775.002

Hazardous Materials in Coatings: It should be taken into consideration that Federal, State, and local environmental agencies have placed stricter controls on the removal of lead-based and other heavy-metal based coatings from steel structures by the use of conventional abrasive blasting techniques. The paint and blast residue may be considered to be hazardous waste depending on the concentration of lead or other particles in residue.

Please contact Tank Industry Consultants if you have any questions or comments.

Respectfully submitted,

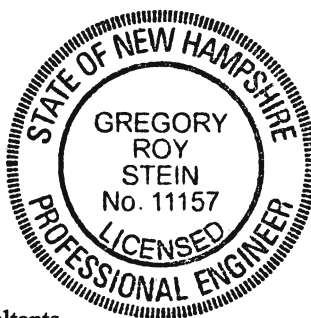
Tank Industry Consultants



Jennifer Coon, CHMM, CET

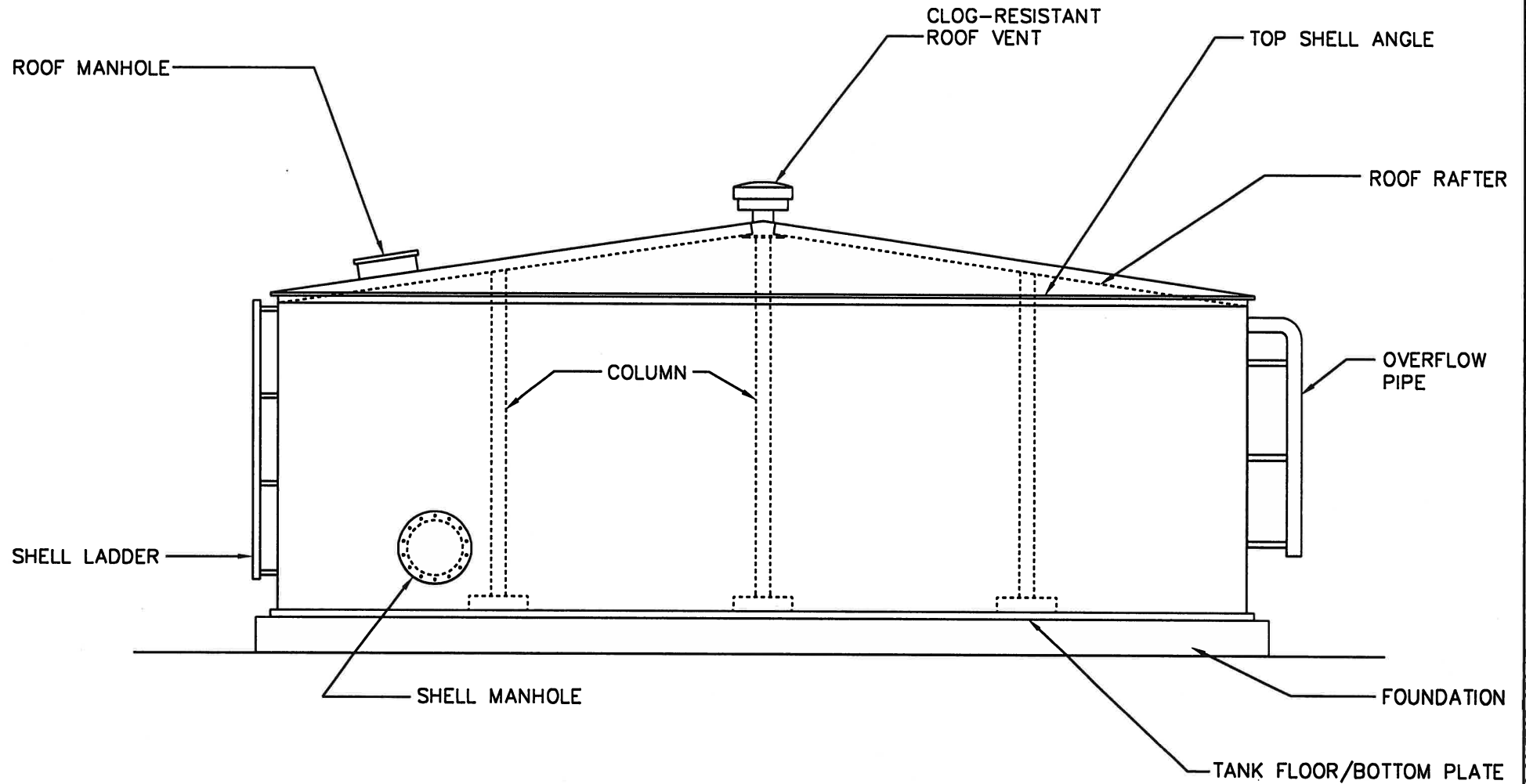


Gregory R. "Chip" Stein, P.E.
Managing Principal









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


GROUND STORAGE TANK



NOMENCLATURE

Classification of Adhesion Test Results

Method A — X Cut Tape Test Approx. 1.5 in. long cuts at 30 deg. to 45 deg. apart.	Surface	Classification
No peeling or removal.		5
Trace peeling or removal along incisions.		4
Jagged removal along incisions up to 1/16 in. (1.6mm) on either side.		3
Jagged removal along most of incisions up to 1/8 in. (3.2mm) on either side.		2
Removal from most of the area of the X under the tape.		1
Removal beyond the area of the X.		0

Method B — Lattice Cut Tape Test Six parallel cuts at 2mm apart.	Surface	Classification
The edges of the cuts are completely smooth; none of the squares of the lattice are detached.	No Failure	5
Small flakes of the coating are detached at intersections; less than 5% of the lattice is affected.		4
Small flakes of the coating are detached along edges and at intersections of cuts. The area affected is 5% to 15% of the lattice.		3
The coating has flaked along the edges and on parts of the squares. The area affected is 15% to 35% of the lattice.		2
The coating has flaked along the edges of cuts in large ribbons and whole squares have detached. The area affected is 35% to 65% of the lattice.		1
Flaking and detachment worse than grade 1.		0

ASTM 3359 Standard Test Methods for Measuring Adhesion by Tape Test

Tank Industry Consultants

7740 West New York Street
Indianapolis, Indiana 46214

Telephone — 317/271-3100
FAX — 317/271-3300

- CERTIFICATE OF ANALYSIS -

Disp. Code: E I

Report Date: 31-Oct-14 12:48 PM

Client ID: TANK_INDUST

Tank Industry Consultants
7740 West New York Street
Indianapolis, Indiana 46214

Attn: Julie White

Phone: (317) 271-3100

FAX: (317) 271-3300

Our Lab # 14015262-001

Your Sample ID: Int. Weir Box

Sample Composition: Grab

Your Project # 14.214.L775.002

Collection Date: 10/17/14

Your Project Name: Paint Samples

Collected By: Client

Sample Type: Paint Chips

Receipt Date: 10/29/14 10:50

Total Metals, ICP-AES

Analytical Method	Prep Method	Prep Date	By
SW846 6010B	SW846 3050B	10/30/2014	amyers

Parameter	Result	Units	Qual	Quant. Limit	CAS #	Analysis Date	By
Cadmium, Cd	< 25.0	mg/kg		25.0	7440-43-9	10/31/14	spotts
Chromium, Cr	< 250	mg/kg		250	7440-47-3	10/31/14	spotts
Lead, Pb	< 250	mg/kg		250	7439-92-1	10/31/14	spotts

Our Lab # 14015262-002

Your Sample ID: Ext. Shell

Sample Composition: Grab

Your Project # 14.214.L775.002

Collection Date: 10/17/14

Your Project Name: Paint Samples

Collected By: Client

Sample Type: Paint Chips

Receipt Date: 10/29/14 10:50

Total Metals, ICP-AES

Analytical Method	Prep Method	Prep Date	By
SW846 6010B	SW846 3050B	10/30/2014	amyers

Parameter	Result	Units	Qual	Quant. Limit	CAS #	Analysis Date	By
Cadmium, Cd	< 25.0	mg/kg		25.0	7440-43-9	10/31/14	spotts
Chromium, Cr	< 250	mg/kg		250	7440-47-3	10/31/14	spotts
Lead, Pb	< 250	mg/kg		250	7439-92-1	10/31/14	spotts

Lab # 14015262-002

Sample ID: Ext. Shell

Page 1 of 2

**ESG Laboratories**

5940 WEST RAYMOND STREET
INDIANAPOLIS, INDIANA 46241

ORIGINAL REPORT

PHONE (317) 290-1471
FAX (317) 290-1670
www.ESGLaboratories.com



10/31/2014

Lab Manager

Date

Lab # 14015262-002

Sample ID: Ext. Shell

Page 2 of 2



ESG Laboratories

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ORIGINAL REPORT

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1. Tank and site.



2. Surrounding area.



3. Surrounding area.



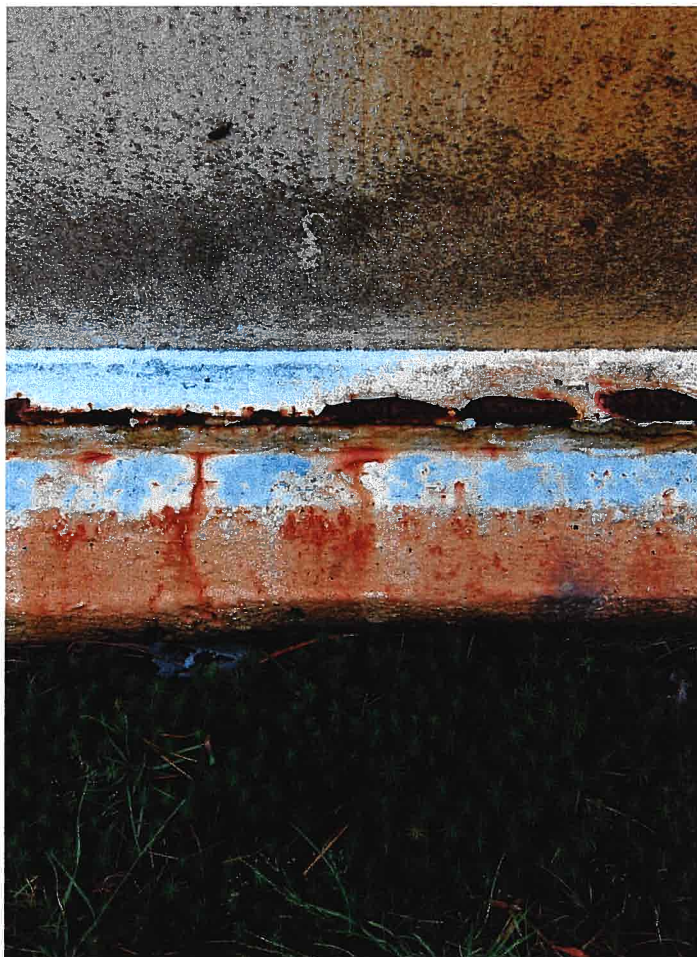
4. Propane tank adjacent to subject tank.



5. Tank foundation, and peeled coating and corrosion on bottom plate.



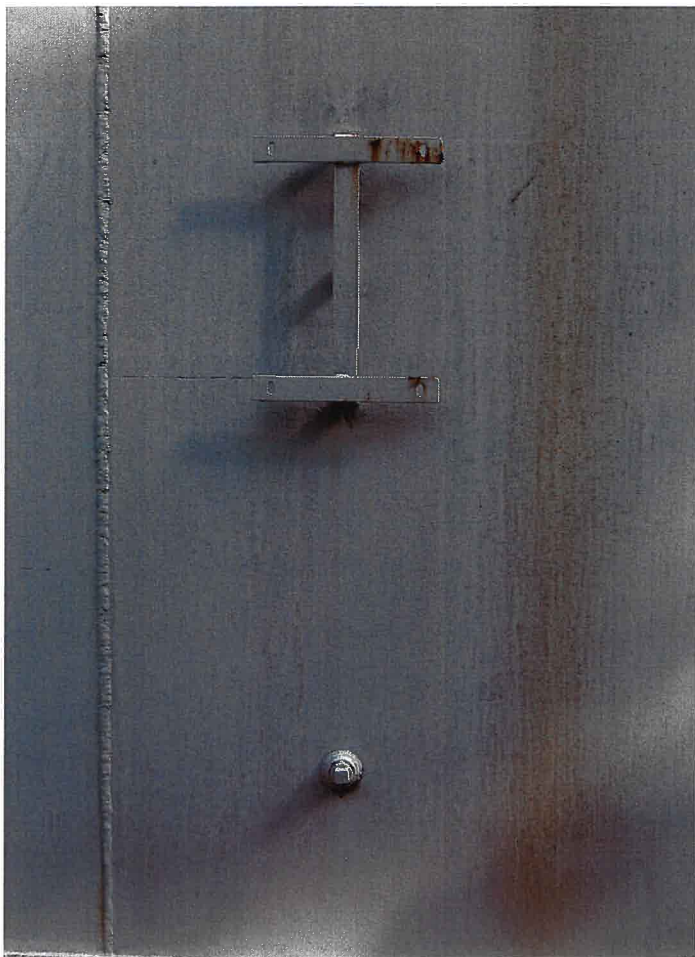
6. Grout, bottom plate, and deterioration in foundation.



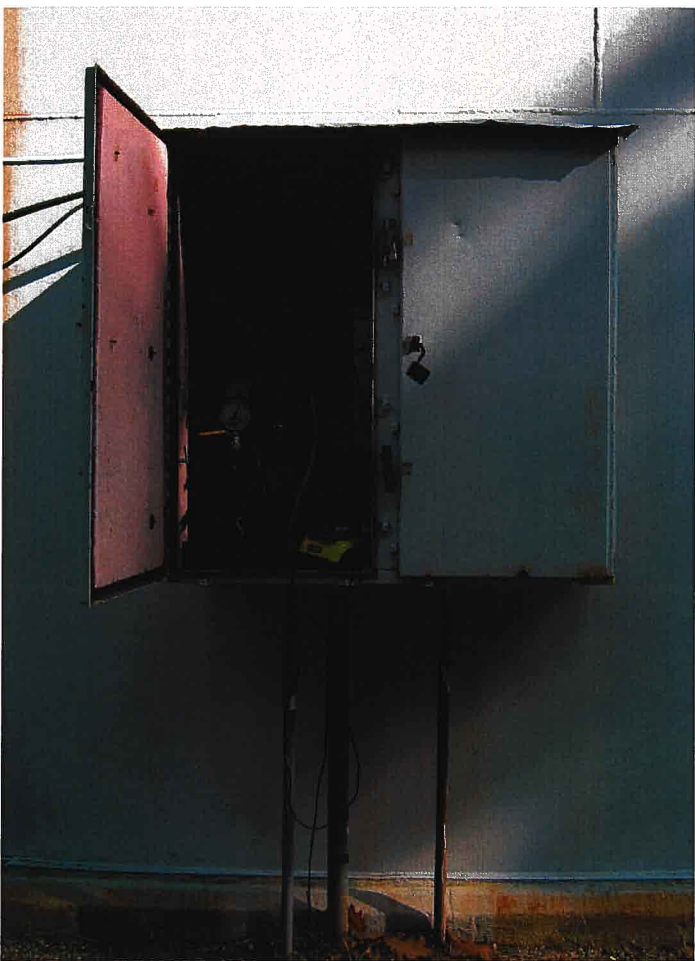
7. Tank foundation, grout, and peeled coating and corrosion on bottom plate.



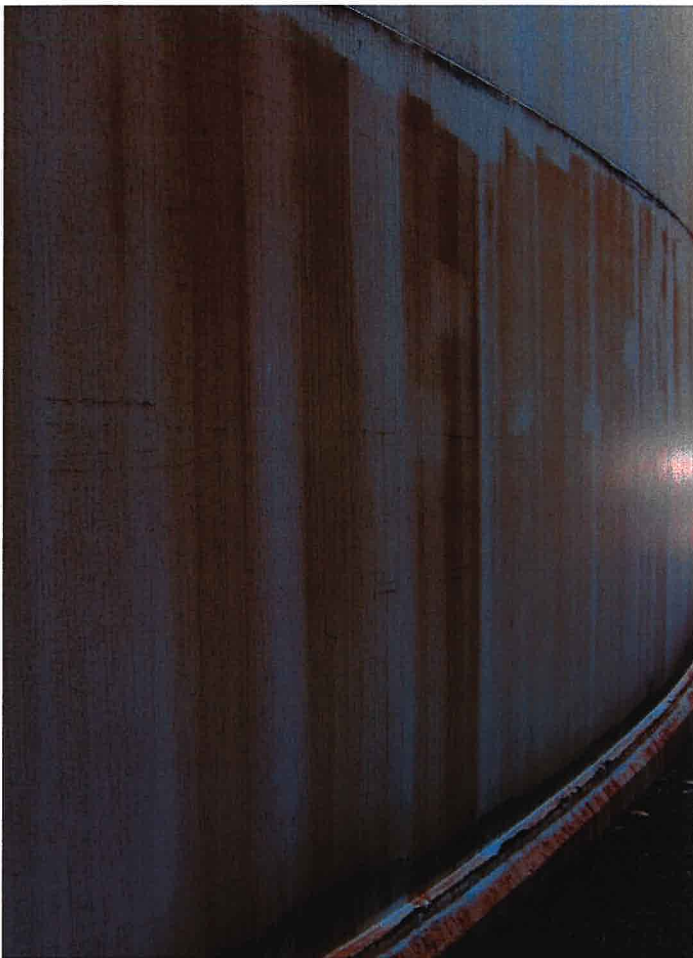
8. Cable and clip lying on foundation and bottom plate.



9. Unused cabinet bracket and threaded and plugged coupling.



10. Cabinet on shell.



11. Rust staining on shell.



12. Corrosion on shell and door sheet.



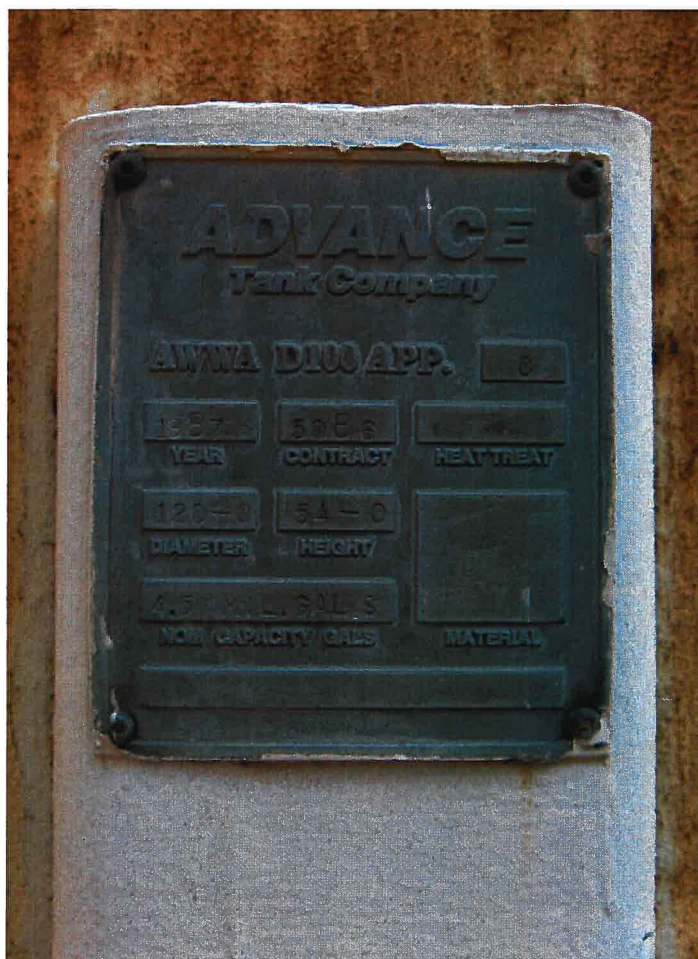
13. Peeled and cracked coating and corrosion on shell.



14. Rust staining on shell.



15. Shell manhole and tank nameplate.



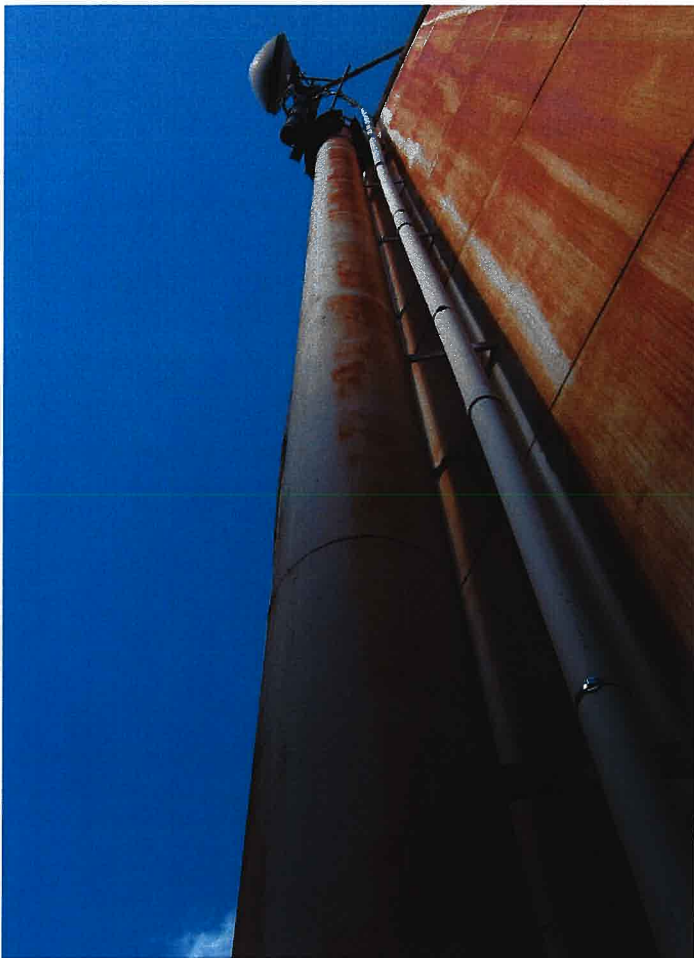
16. Tank nameplate.



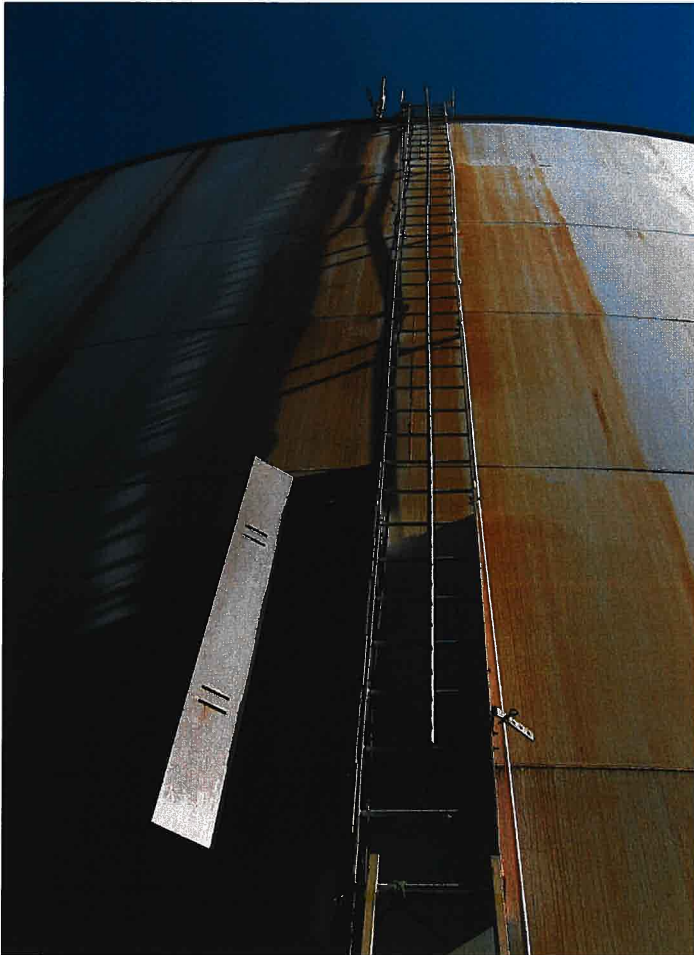
17. Shell manhole.



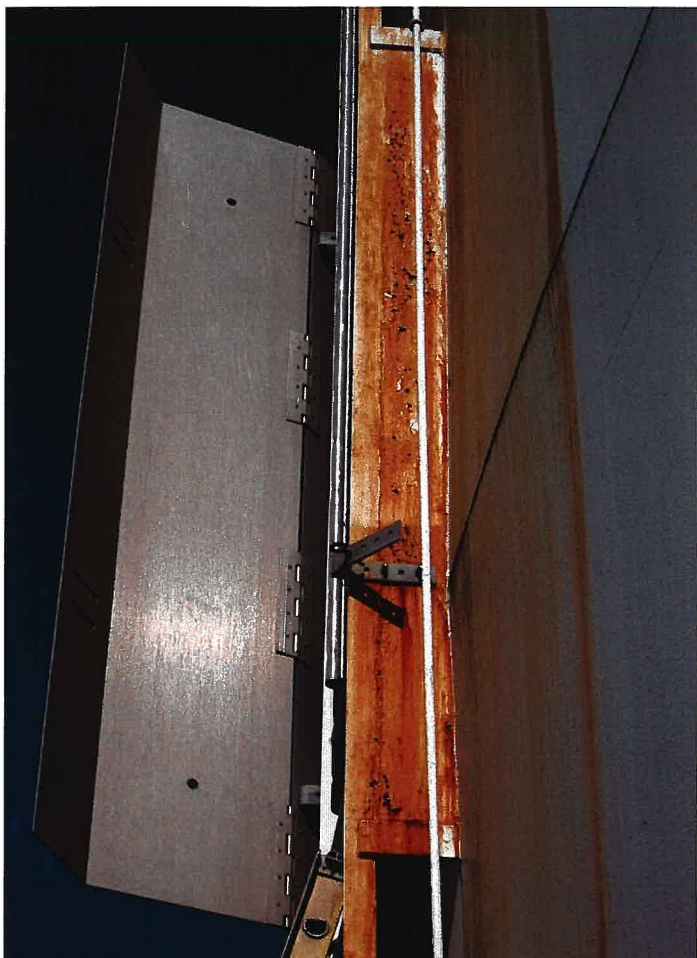
18. Overflow pipe, elastomeric check valve, and discharge pipe.



19. Conduit extending to antennas on overflow pipe.



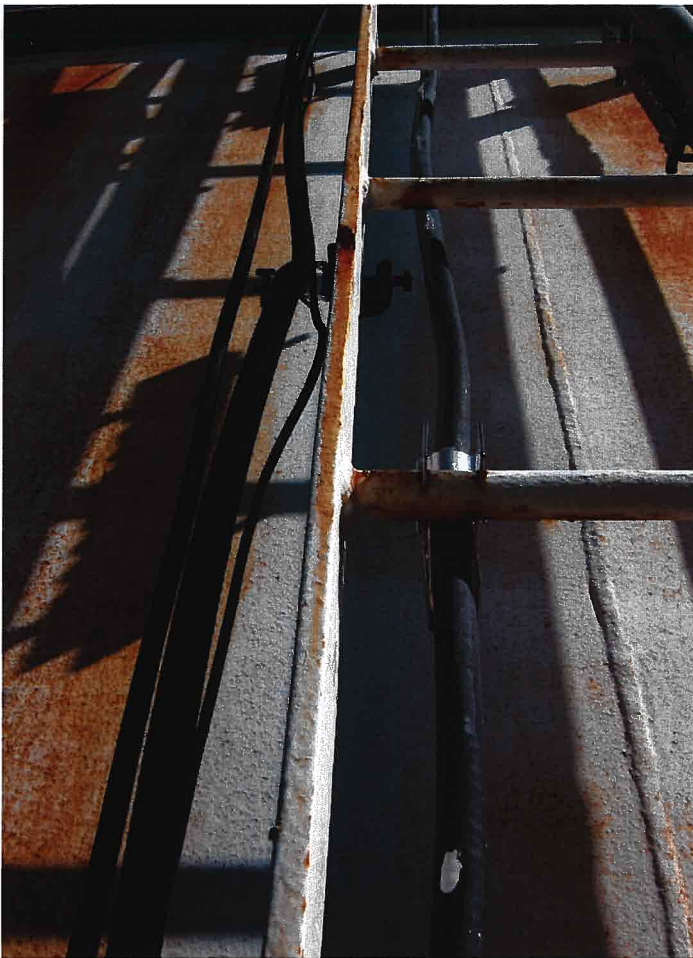
20. Exterior ladder, safe-climbing device, and vandal deterrent.



21. Side panels on vandal deterrent.



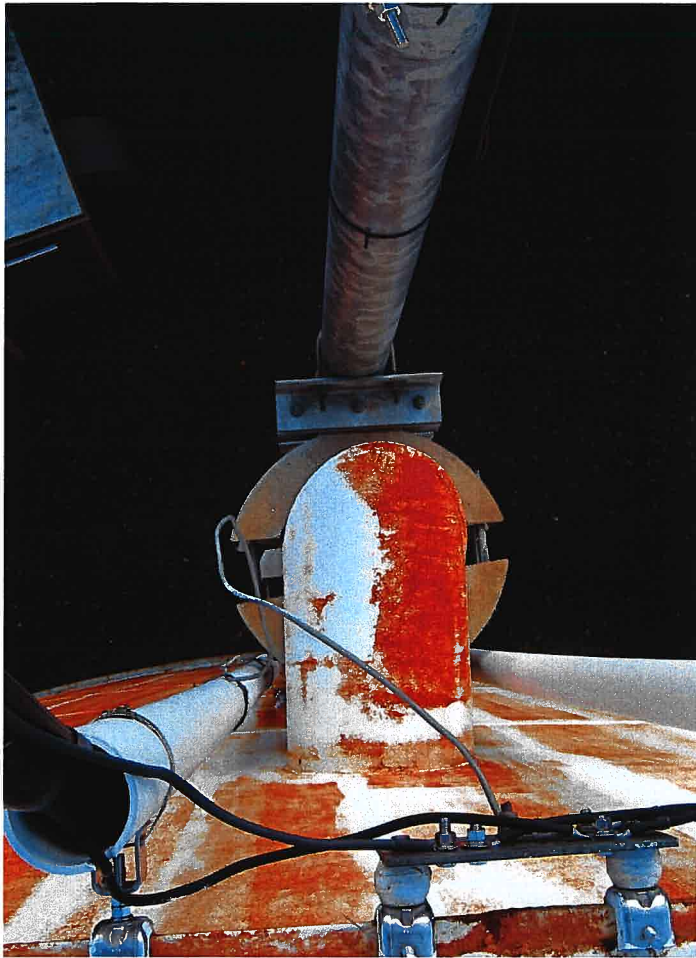
22. Exterior ladder, conduits, and safe-climbing device.



23. Cables and conduits on exterior ladder.



24. Top shell angle.



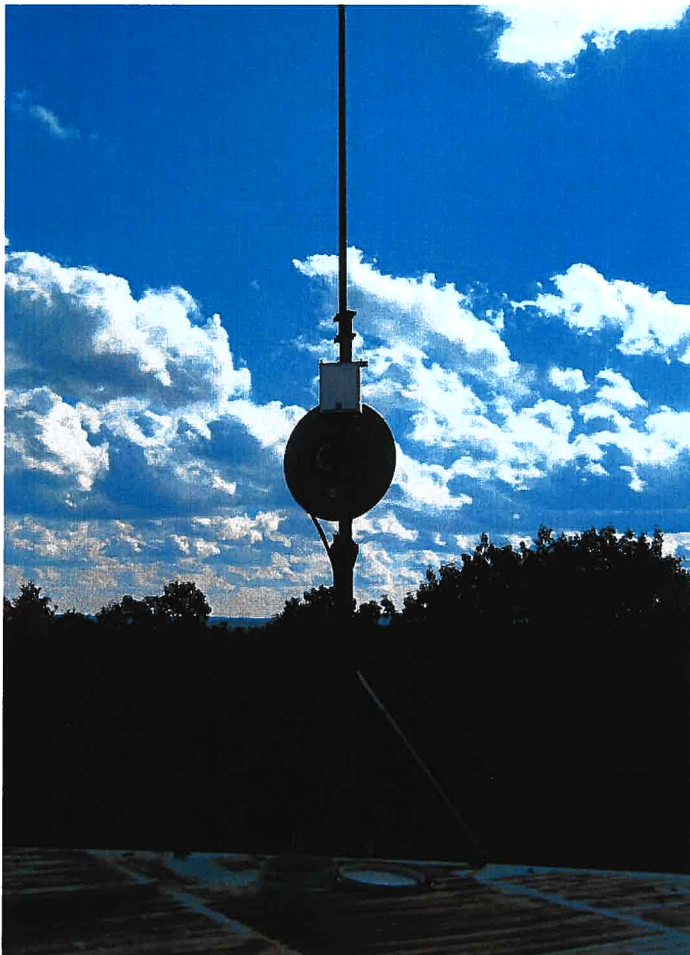
25. Antenna equipment on overflow pipe.



26. Roof access, roof safety railing, roof manhole, conduit, and antenna.



27. Roof manhole.



28. Antenna and roof manhole.



29. Roof manhole.



30. Roof manhole.



31. Corrosion and conduit on roof.



32. Peeled coating and corrosion on roof.



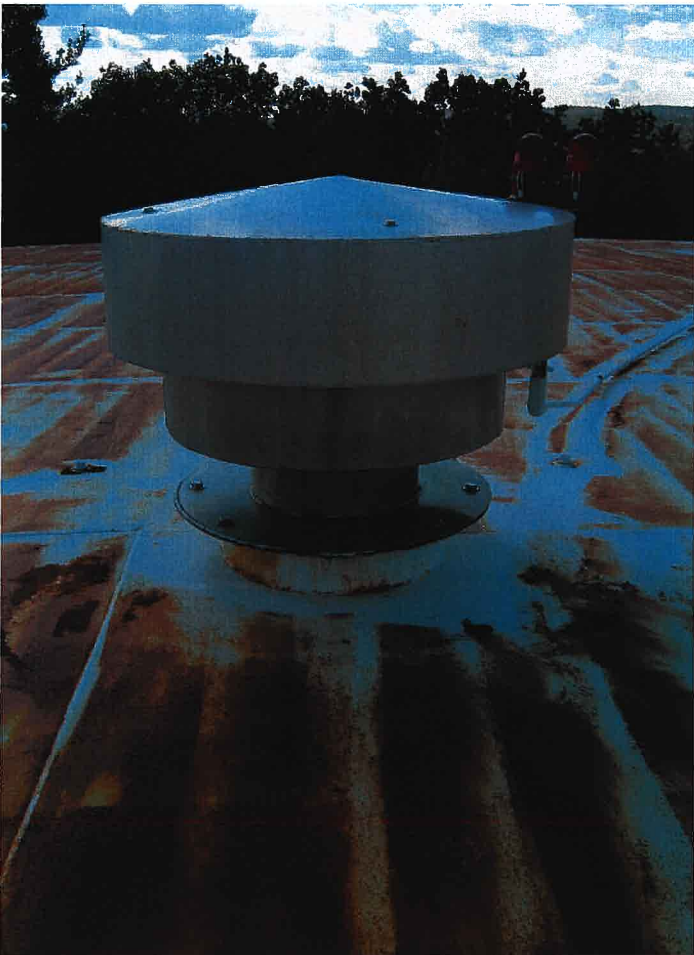
33. Corrosion on roof.



34. Threaded and plugged couplings, and corrosion on roof.



35. Threaded and plugged coupling.



36. Roof vent and obstruction lights.



37. Underside of clog-resistant vent.



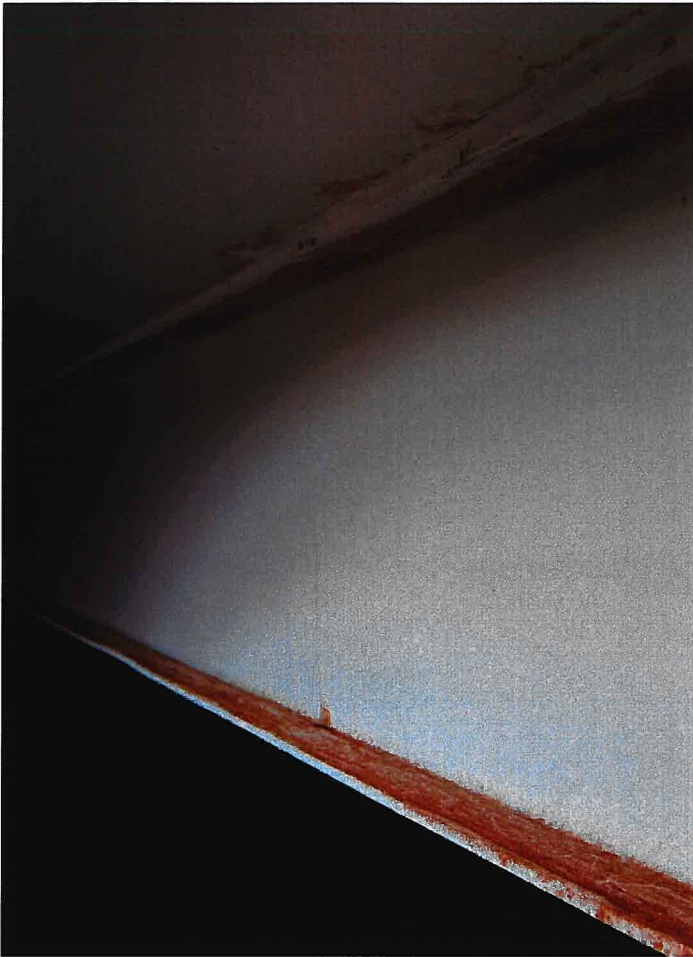
38. Obstruction lights.



39. Roof interior and support structure.



40. Roof interior and support structure.



41. Rust staining along rafter.



42. Rust staining along rafter.



43. Rafters.



44. Rafters.



45. Rafter attachment to shell.



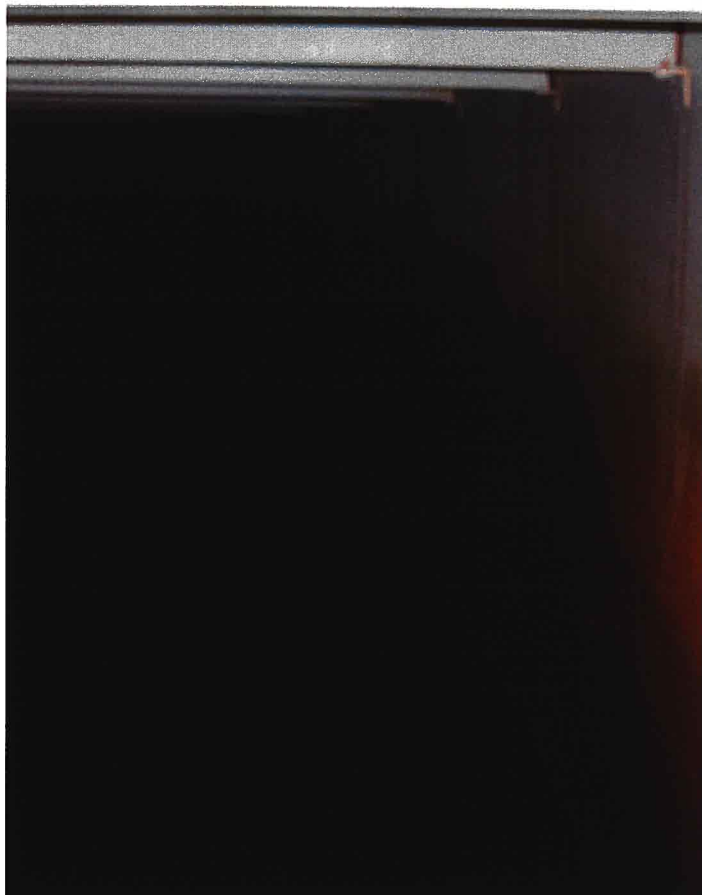
46. Rafter attachment to shell.



47. Corrosion and rust staining on attachment clip and bolt.



48. Corrosion and rust staining along roof-to-shell connection.

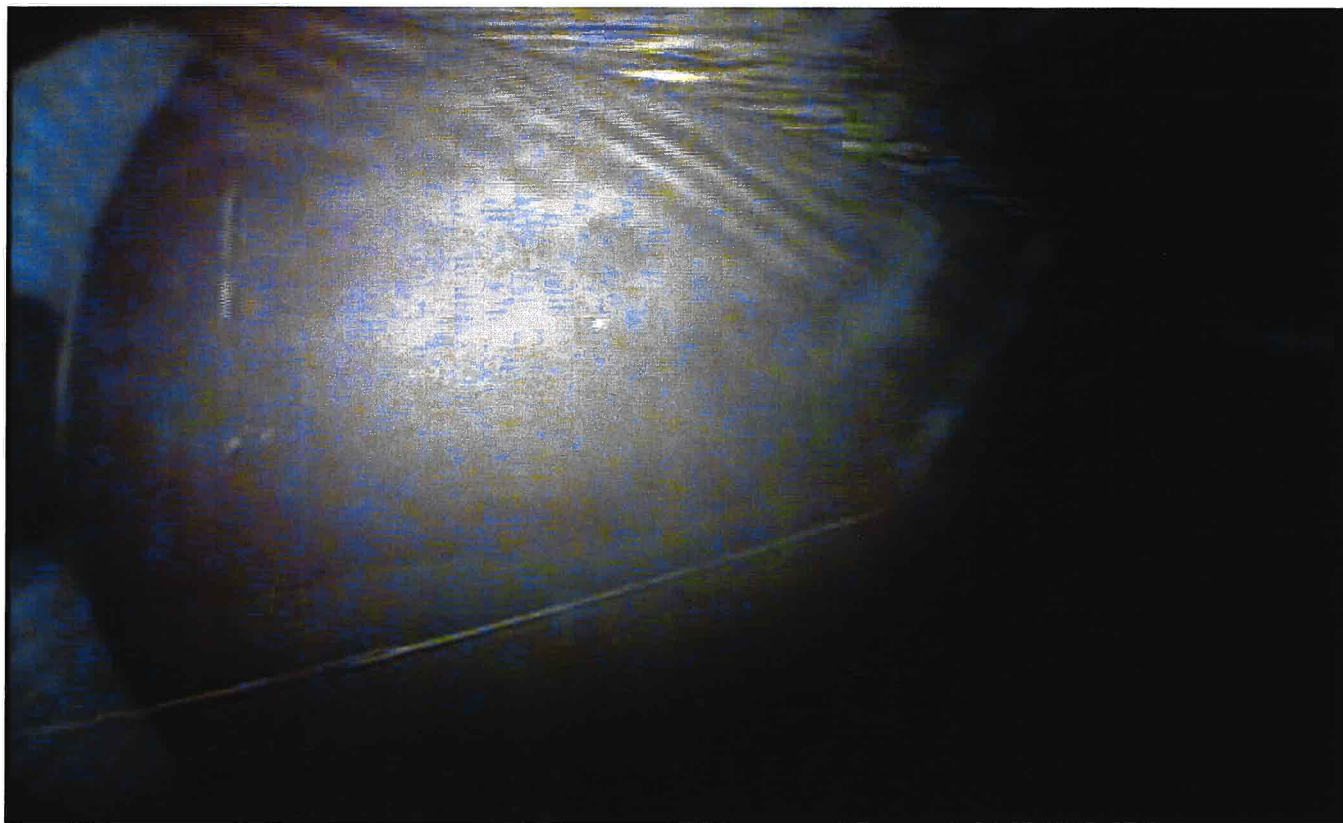


49. Rust staining on upper shell.

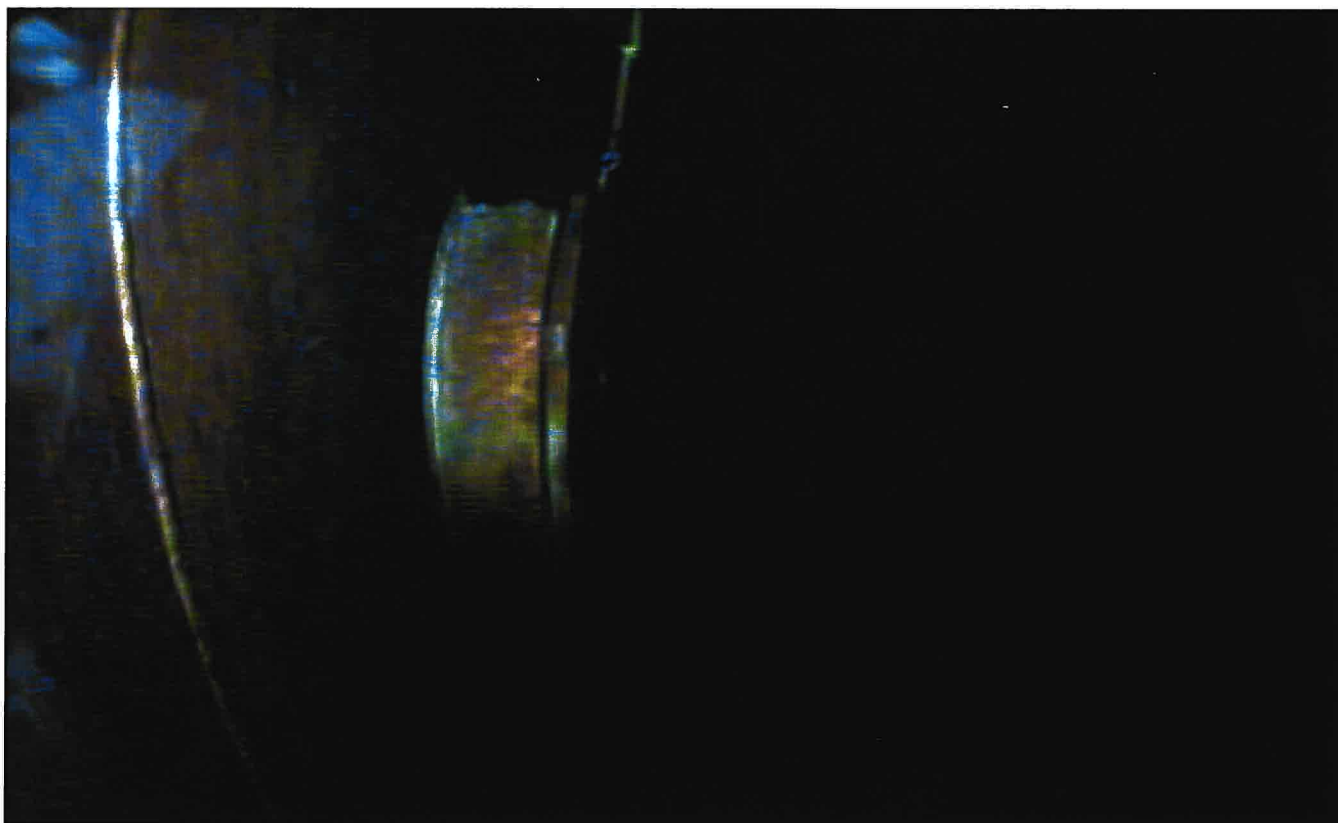


50. Overflow inlet weir box.





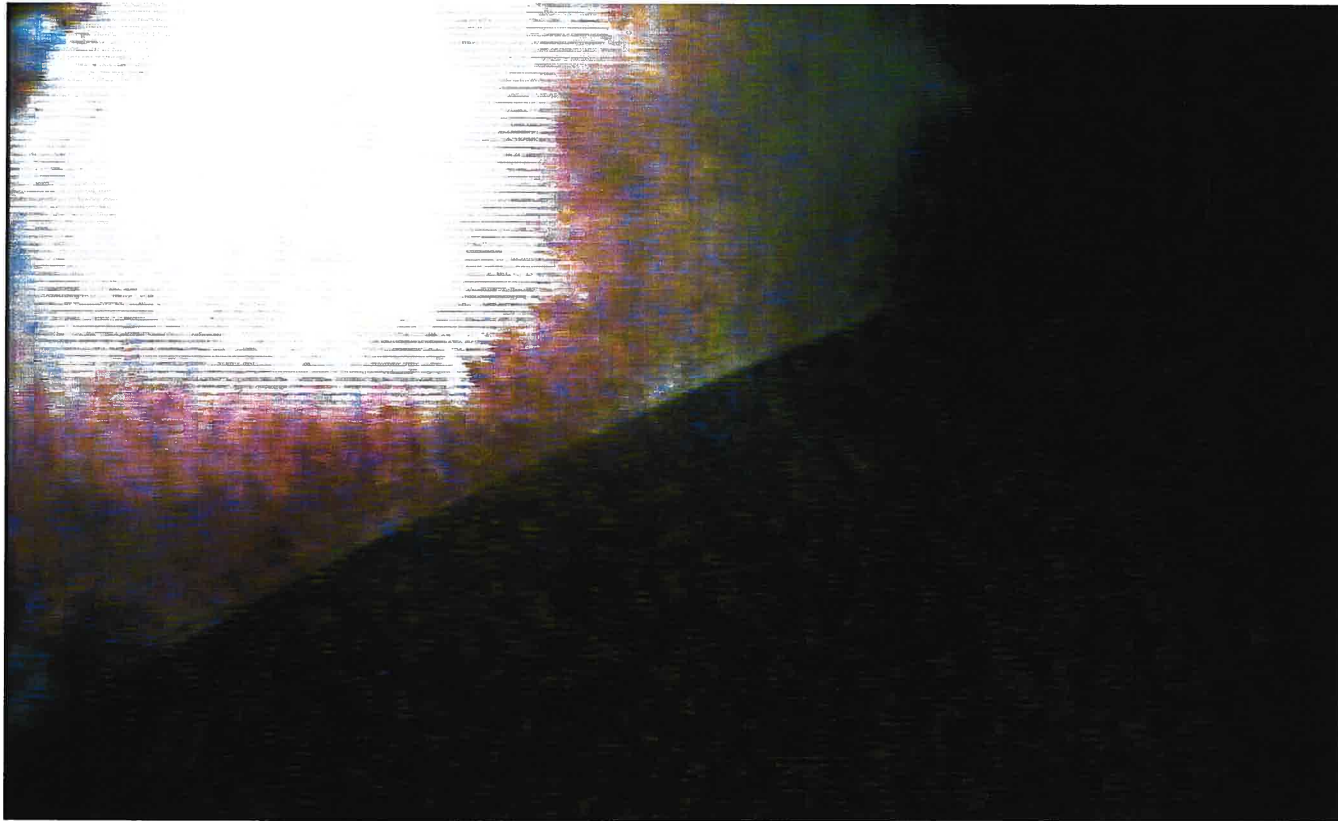
53. Shell interior.



54. Shell manhole interior.



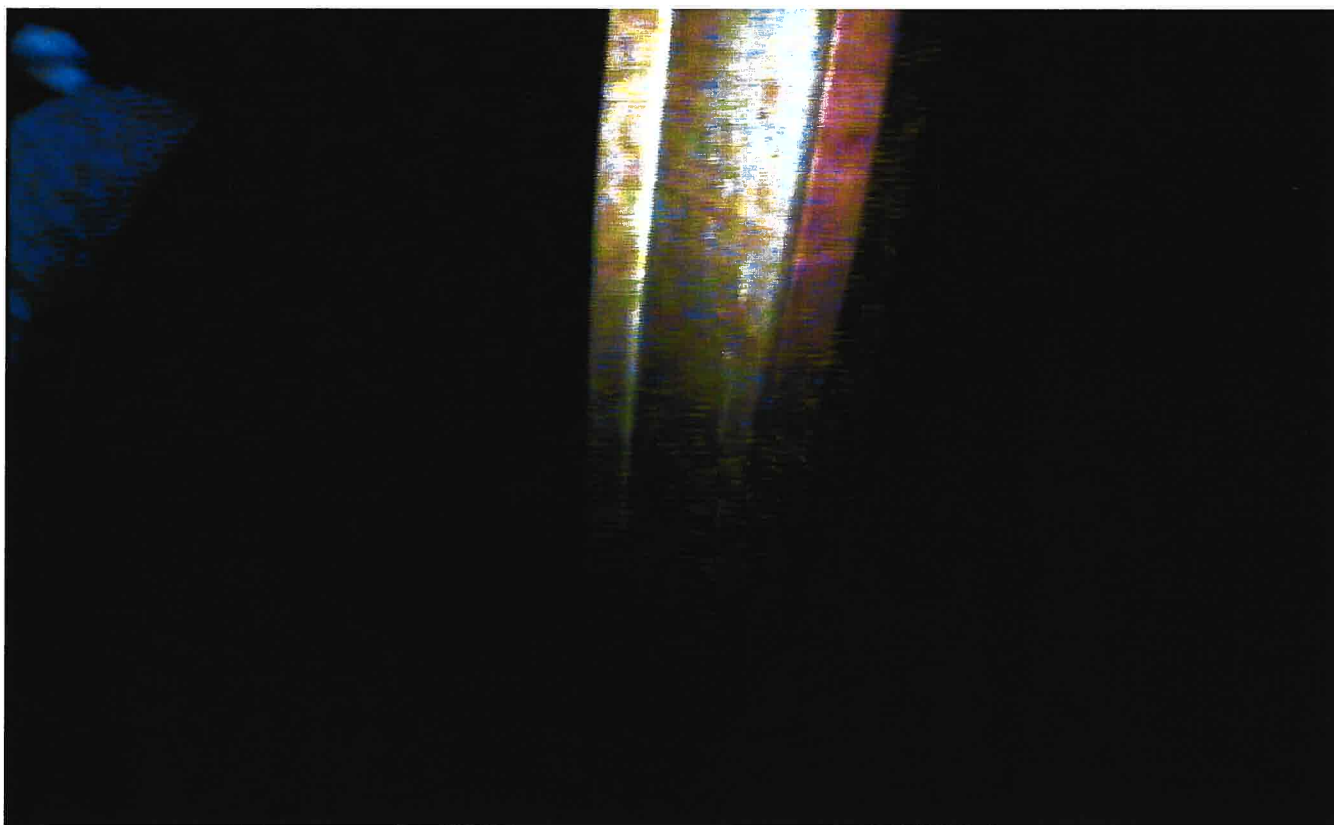
55. Hinge for shell manhole cover.



56. Shell and silt on floor.



57. Shell and silt on floor.



58. Column.



59. Column.



60. Column.



61. Column base.



62. Inlet/outlet pipe.

Pennichuck Water Works
 2021 PWW QCPAC filing
 DW 21-023
 Attachment DOE 1-13
 Comparison of Electrical vs. Carbon Expenses
 7/20/2021

Comparison based on treating 11.975 MGD. This is the average daily pumpage through
 the WTP over the past 5 years

350 HP for one Merrimack River Pump
 0.746 Kw per HP
 261.1 KW - electrical draw for one Merrimack River Pump
 8000 gpm - Average flow rate for 1 MRI pump
 11.52737752 MGD - Average flow rate for 1 MRI pump
 \$ 0.1206 Unit electrical cost per KW-Hr - Based on 2020 WTP electrical expenses
 \$ 755.73 to run one 350 HP pump 24 hours
 \$ 65.56 Electrical cost per MG
 \$ 286,552 Additoinal electrical cost per year to pump from the Merrimack River

10.8

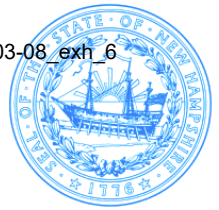
\$ 2,250,000 Cost of complete Carbon Change out
 1.5 Expected Carbon life with Pennichuck Brook at average PFOA levels of 18 PPT
 6.75 Expected Carbon life with Merrimack River at average PFOA levels of 4 PPT
 MRI carbon life controlled by Taste and Odor or by loss of PFOA adsorption sits.
 \$ 1,500,000 Annual expense of Carbon bed change out if Pennichuck Brook is used as supply
 \$ 333,333 Annual expense of Carbon bed change out if Merrimack River is used as supply
 \$ 619,885 Annual cost of using Merrimack RI (electric + Carbon)
 5.23 Comparison of PB Carbon Change out to MRI electrical and Crbon Change out cost
 2.4 Comparison of PB Carbon Change out to MRI electrical cost



The State of New Hampshire
Department of Environmental Services

Robert R. Scott, Commissioner

21-023_2022-03-08_exh 6



January 18, 2019

Alec Sirocki, P.E.
Tighe & Bond
177 Corporate Drive
Portsmouth, NH 03801

Subject: Pennichuck Water Works: PWS 1621010
Merrimack River Intake Improvements
DWGB Design Review #005383

Dear Mr. Sirocki:

The New Hampshire Department of Environmental Services (NHDES) Drinking Water and Groundwater Bureau (DWGB) has reviewed the following bid documents for the subject project. The proposed drinking water improvements include construction of a new deep river raw water intake at Pennichuck Water Works' (PWW) existing Merrimack River intake site.

- Project Manual dated January 11, 2019
- Construction Drawings dated January 11, 2019
- Letter to Rick Skarinka, NHDES DWGB dated January 15, 2019

DWGB hereby approves the above documents subject to incorporation of the following comments. Any changes to the approved drawings or specifications by means of revised pages or addenda must be submitted to NHDES for review and approval, and issued at least five (5) days prior to bid opening.

1. All construction shall conform to AWWA standards.
2. Replace sign template with DWGTF sign. (Replace EPA logo with NHDWGTF logo.)
3. **As a condition of approval of the proposed project NHDES will be requiring Pennichuck Water Works to develop a modified source water protection plan, which will be required prior to activation of the project.** The source water protection staff at NHDES will contact Pennichuck directly regarding this issue.

We understand the NH Drinking Water and Groundwater Advisory Commission has awarded PWW a loan from the NH Drinking Water and Groundwater Trust Fund (DWGTF) for this project. The next step in the loan approval process is for PWW to submit a Final Loan Application.

In addition to verification of a loan being in place, DES requires submission of the following materials prior to our written authorization to award the construction contract:

- A. An estimate of eligible project costs, with monthly cash flow projections, including construction engineering and other costs.
- B. Evidence of advertisement for bids.
- C. A tabulation of all bids which were received.

- D. A letter signed by the water system's Authorized Representative, indicating the name of the bidder to whom a contract will be awarded.
- E. The bid proposal of the bidder to whom a contract will be awarded
- F. Certification that all necessary permits, land acquisitions and easements have been secured.
- G. Finding of No Significant Impact issued by the Commissioner of NHDES.

If you have any questions or comments please contact me at 271-0779 or michael.unger@des.nh.gov.

Sincerely,

A handwritten signature in black ink, appearing to read 'M. Unger', with a stylized flourish at the end.

Michael C. Unger, P.E.
Drinking Water and Groundwater Bureau

cc: John Boisvert, PWW

PWW TD FALOC Analysis

21-023_2022-03-08_exh_6

Pennichuck Water Works, Inc.
DW21-023
Projected FALOC Interest Expense
Attachment Staff DR 1-21
7/20/2021

Libor Rate Advances																
Day of Week	Date	Beginning Balance - Availability	Advances	Payments	Total Amount Borrowed	Total Borrowed - All Advances	Ending Balance - Availability	Unused Fee %	Unused Fee Amount	check total	LIBOR + 1.75%	Interest Expense	Monthly Unused Fee	Monthly Interest Expense		
Thursday	12/31/20	5,450,441.20	-	-	4,549,558.80	4,549,558.80	7,450,441.20	0.00250	37.85		1.89913%	240.01				
Friday	01/01/21	7,450,441.20	-	-	4,549,558.80	4,549,558.80	7,450,441.20	0.00250	51.74		1.89675%	239.70				
Saturday	01/02/21	7,450,441.20	-	-	4,549,558.80	4,549,558.80	7,450,441.20	0.00250	51.74		1.89675%	239.70				
Sunday	01/03/21	7,450,441.20	-	-	4,549,558.80	4,549,558.80	7,450,441.20	0.00250	51.74		1.89675%	239.70				
Monday	01/04/21	7,450,441.20	-	-	4,549,558.80	4,549,558.80	7,450,441.20	0.00250	51.74		1.89675%	239.70				
Tuesday	01/05/21	7,450,441.20	-	-	4,549,558.80	4,549,558.80	7,450,441.20	0.00250	51.74		1.89675%	239.70				
Wednesday	01/06/21	7,450,441.20	-	-	4,549,558.80	4,549,558.80	7,450,441.20	0.00250	51.74		1.89675%	239.70				
Thursday	01/07/21	7,450,441.20	-	-	4,549,558.80	4,549,558.80	7,450,441.20	0.00250	51.74		1.89675%	239.70				
Friday	01/08/21	7,450,441.20	-	-	4,549,558.80	4,549,558.80	7,450,441.20	0.00250	51.74		1.89675%	239.70				
Saturday	01/09/21	7,450,441.20	-	-	4,549,558.80	4,549,558.80	7,450,441.20	0.00250	51.74		1.89675%	239.70				
Sunday	01/10/21	7,450,441.20	-	-	4,549,558.80	4,549,558.80	7,450,441.20	0.00250	51.74		1.89675%	239.70				
Monday	01/11/21	7,450,441.20	695,704.88	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.89675%	276.36				
Tuesday	01/12/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.89675%	276.36				
Wednesday	01/13/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.89675%	276.36				
Thursday	01/14/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.89675%	276.36				
Friday	01/15/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.89675%	276.36				
Saturday	01/16/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.89675%	276.36				
Sunday	01/17/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.89675%	276.36				
Monday	01/18/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.89675%	276.36				
Tuesday	01/19/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.89675%	276.36				
Wednesday	01/20/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.89675%	276.36				
Thursday	01/21/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.89675%	276.36				
Friday	01/22/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.89675%	276.36				
Saturday	01/23/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.89675%	276.36				
Sunday	01/24/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.89675%	276.36				
Monday	01/25/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.89675%	276.36				
Tuesday	01/26/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.89675%	276.36				
Wednesday	01/27/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.89675%	276.36				
Thursday	01/28/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.89675%	276.36				
Friday	01/29/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.89675%	276.36				
Saturday	01/30/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.89675%	276.36				
Sunday	01/31/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.89675%	276.36				
Monday	02/01/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.87288%	272.88				
Tuesday	02/02/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.87288%	272.88				
Wednesday	02/03/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.87288%	272.88				
Thursday	02/04/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.87288%	272.88				
Friday	02/05/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.87288%	272.88				
Saturday	02/06/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.87288%	272.88				
Sunday	02/07/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.87288%	272.88				
Monday	02/08/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.87288%	272.88				
Tuesday	02/09/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.87288%	272.88				
Wednesday	02/10/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.87288%	272.88				
Thursday	02/11/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.87288%	272.88				
Friday	02/12/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.87288%	272.88				
Saturday	02/13/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.87288%	272.88				
Sunday	02/14/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.87288%	272.88				
Monday	02/15/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.87288%	272.88				
Tuesday	02/16/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.87288%	272.88				
Wednesday	02/17/21	6,754,736.32	-	-	5,245,263.68	5,245,263.68	6,754,736.32	0.00250	46.91		1.87288%	272.88				
Thursday	02/18/21	6,754,736.32	359,457.41	-	5,604,721.09	5,604,721.09	6,395,278.91	0.00250	44.41		1.87288%	291.58				
Friday	02/19/21	6,395,278.91	-	-	5,604,721.09	5,604,721.09	6,395,278.91	0.00250	44.41		1.87288%	291.58				
Saturday	02/20/21	6,395,278.91	-	-	5,604,721.09	5,604,721.09	6,395,278.91	0.00250	44.41		1.87288%	291.58				
Sunday	02/21/21	6,395,278.91	-	-	5,604,721.09	5,604,721.09	6,395,278.91	0.00250	44.41		1.87288%	291.58				
Monday	02/22/21	6,395,278.91	-	-	5,604,721.09	5,604,721.09	6,395,278.91	0.00250	44.41		1.87288%	291.58				
Tuesday	02/23/21	6,395,278.91	-	-	5,604,721.09	5,604,721.09	6,395,278.91	0.00250	44.41		1.87288%	291.58				
Wednesday	02/24/21	6,395,278.91	-	-	5,604,721.09	5,604,721.09	6,395,278.91	0.00250	44.41		1.87288%	291.58				
Thursday	02/25/21	6,395,278.91	-	-	5,604,721.09	5,604,721.09	6,395,278.91	0.00250	44.41		1.87288%	291.58				
Friday	02/26/21	6,395,278.91	-	-	5,604,721.09	5,604,721.09	6,395,278.91	0.00250	44.41		1.87288%	291.58				
Saturday	02/27/21	6,395,278.91	-	-	5,604,721.09	5,604,721.09	6,395,278.91	0.00250	44.41		1.87288%	291.58				
Sunday	02/28/21	6,395,278.91	-	-	5,604,721.09	5,604,721.09	6,395,278.91	0.00250	44.41		1.87288%	291.58				
Monday	03/01/21	6,395,278.91	-	-	5,604,721.09	5,604,721.09	6,395,278.91	0.00250	44.41		1.86513%	290.38				
Tuesday	03/02/21	6,395,278.91	-	-	5,604,721.09	5,604,721.09	6,395,278.91	0.00250	44.41		1.86513%	290.38				
													\$	1,502.46	\$	8,200.56
													\$	1,285.96	\$	7,846.34

\$ 1,502.46 \$ 8,200.56

\$ 1,285.96 \$ 7,846.34

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Libor Rate Advances

S:\p\Pennichuck\2021 PWW QCPAC Petition 21-023\Discovery\Staff DR Set 1 7-8-21\PWW Response Drafts\Attach Staff 1-21 Projected FALOC interest

7/20/2021

Libor Rate Advances													
Day of Week	Date	Beginning Balance - Availability	Advances	Payments	Total Amount Borrowed	Total Borrowed - All Advances	Ending Balance - Availability	Unused Fee %	Unused Fee Amount	check total	LIBOR + 1.75%	Interest Expense	Monthly Unused Fee
Saturday	05/08/21	11,195,136.80	-	-	804,863.20	804,863.20	11,195,136.80	0.00250	77.74		1.85850%	41.55	
Sunday	05/09/21	11,195,136.80	-	-	804,863.20	804,863.20	11,195,136.80	0.00250	77.74		1.85850%	41.55	
Monday	05/10/21	11,195,136.80	-	-	804,863.20	804,863.20	11,195,136.80	0.00250	77.74		1.85850%	41.55	
Tuesday	05/11/21	11,195,136.80	-	-	804,863.20	804,863.20	11,195,136.80	0.00250	77.74		1.85850%	41.55	
Wednesday	05/12/21	11,195,136.80	-	-	804,863.20	804,863.20	11,195,136.80	0.00250	77.74		1.85850%	41.55	
Thursday	05/13/21	11,195,136.80	-	-	804,863.20	804,863.20	11,195,136.80	0.00250	77.74		1.85850%	41.55	
Friday	05/14/21	11,195,136.80	-	-	804,863.20	804,863.20	11,195,136.80	0.00250	77.74		1.85850%	41.55	
Saturday	05/15/21	11,195,136.80	-	-	804,863.20	804,863.20	11,195,136.80	0.00250	77.74		1.85850%	41.55	
Sunday	05/16/21	11,195,136.80	-	-	804,863.20	804,863.20	11,195,136.80	0.00250	77.74		1.85850%	41.55	
Monday	05/17/21	11,195,136.80	-	-	804,863.20	804,863.20	11,195,136.80	0.00250	77.74		1.85850%	41.55	
Tuesday	05/18/21	11,195,136.80	-	-	804,863.20	804,863.20	11,195,136.80	0.00250	77.74		1.85850%	41.55	
Wednesday	05/19/21	11,195,136.80	-	-	804,863.20	804,863.20	11,195,136.80	0.00250	77.74		1.85850%	41.55	
Thursday	05/20/21	11,195,136.80	-	-	804,863.20	804,863.20	11,195,136.80	0.00250	77.74		1.85850%	41.55	
Friday	05/21/21	11,195,136.80	491,735.87	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Saturday	05/22/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Sunday	05/23/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Monday	05/24/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Tuesday	05/25/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Wednesday	05/26/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Thursday	05/27/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Friday	05/28/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Saturday	05/29/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Sunday	05/30/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Monday	05/31/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Tuesday	06/01/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Wednesday	06/02/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Thursday	06/03/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Friday	06/04/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Saturday	06/05/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Sunday	06/06/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Monday	06/07/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Tuesday	06/08/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Wednesday	06/09/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Thursday	06/10/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Friday	06/11/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Saturday	06/12/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Sunday	06/13/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Monday	06/14/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Tuesday	06/15/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Wednesday	06/16/21	10,703,400.93	-	-	1,296,599.07	1,296,599.07	10,703,400.93	0.00250	74.33		1.85850%	66.94	
Thursday	06/17/21	10,703,400.93	779,736.18	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Friday	06/18/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Saturday	06/19/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Sunday	06/20/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Monday	06/21/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Tuesday	06/22/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Wednesday	06/23/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Thursday	06/24/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Friday	06/25/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Saturday	06/26/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Sunday	06/27/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Monday	06/28/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Tuesday	06/29/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Wednesday	06/30/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Thursday	07/01/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Friday	07/02/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Saturday	07/03/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Sunday	07/04/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Monday	07/05/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Tuesday	07/06/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Wednesday	07/07/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Thursday	07/08/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Friday	07/09/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Saturday	07/10/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Sunday	07/11/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	
Monday	07/12/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19	

\$	2,372.50	\$	1,567.34
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\$	2,154.07	\$	2,571.70
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Libor Rate Advances

Day of Week	Date	Beginning Balance - Availability	Advances	Payments	Total Amount Borrowed	Total Borrowed - All Advances	Ending Balance - Availability	Unused Fee %	Unused Fee Amount	check total	LIBOR + 1.75%	Interest Expense	Monthly Unused Fee	Monthly Interest Expense
Tuesday	07/13/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19		
Wednesday	07/14/21	9,923,664.75	-	-	2,076,335.25	2,076,335.25	9,923,664.75	0.00250	68.91		1.85850%	107.19		
Thursday	07/15/21	9,923,664.75	830,000.00	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Friday	07/16/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Saturday	07/17/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Sunday	07/18/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Monday	07/19/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Tuesday	07/20/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Wednesday	07/21/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Thursday	07/22/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Friday	07/23/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Saturday	07/24/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Sunday	07/25/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Monday	07/26/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Tuesday	07/27/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Wednesday	07/28/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Thursday	07/29/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Friday	07/30/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Saturday	07/31/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04	\$ 2,038.36	\$ 4,051.34
Sunday	08/01/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Monday	08/02/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Tuesday	08/03/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Wednesday	08/04/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Thursday	08/05/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Friday	08/06/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Saturday	08/07/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Sunday	08/08/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Monday	08/09/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Tuesday	08/10/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Wednesday	08/11/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Thursday	08/12/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Friday	08/13/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Saturday	08/14/21	9,093,664.75	-	-	2,906,335.25	2,906,335.25	9,093,664.75	0.00250	63.15		1.85850%	150.04		
Sunday	08/15/21	9,093,664.75	1,550,000.00	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Monday	08/16/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Tuesday	08/17/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Wednesday	08/18/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Thursday	08/19/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Friday	08/20/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Saturday	08/21/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Sunday	08/22/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Monday	08/23/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Tuesday	08/24/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Wednesday	08/25/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Thursday	08/26/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Friday	08/27/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Saturday	08/28/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Sunday	08/29/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Monday	08/30/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Tuesday	08/31/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Wednesday	09/01/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Thursday	09/02/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Friday	09/03/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Saturday	09/04/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Sunday	09/05/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Monday	09/06/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Tuesday	09/07/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Wednesday	09/08/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Thursday	09/09/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Friday	09/10/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Saturday	09/11/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Sunday	09/12/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Monday	09/13/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Tuesday	09/14/21	7,543,664.75	-	-	4,456,335.25	4,456,335.25	7,543,664.75	0.00250	52.39		1.85850%	230.06		
Wednesday	09/15/21	7,543,664.75	1,500,000.00	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Thursday	09/16/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		

PWW TD FALOC Analysis

21-023_2022-03-08_exh_6

7/20/2021

Libor Rate Advances														
Day of Week	Date	Beginning Balance - Availability	Advances	Payments	Total Amount Borrowed	Total Borrowed - All Advances	Ending Balance - Availability	Unused Fee %	Unused Fee Amount	check total	LIBOR + 1.75%	Interest Expense	Monthly Unused Fee	Monthly Interest Expense
Friday	09/17/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Saturday	09/18/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Sunday	09/19/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Monday	09/20/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Tuesday	09/21/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Wednesday	09/22/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Thursday	09/23/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Friday	09/24/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Saturday	09/25/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Sunday	09/26/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Monday	09/27/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Tuesday	09/28/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Wednesday	09/29/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Thursday	09/30/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50	\$ 1,404.93	\$ 8,140.84
Friday	10/01/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Saturday	10/02/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Sunday	10/03/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Monday	10/04/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Tuesday	10/05/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Wednesday	10/06/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Thursday	10/07/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Friday	10/08/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Saturday	10/09/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Sunday	10/10/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Monday	10/11/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Tuesday	10/12/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Wednesday	10/13/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Thursday	10/14/21	6,043,664.75	-	-	5,956,335.25	5,956,335.25	6,043,664.75	0.00250	41.97		1.85850%	307.50		
Friday	10/15/21	6,043,664.75	2,200,000.00	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Saturday	10/16/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Sunday	10/17/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Monday	10/18/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Tuesday	10/19/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Wednesday	10/20/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Thursday	10/21/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Friday	10/22/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Saturday	10/23/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Sunday	10/24/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Monday	10/25/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Tuesday	10/26/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Wednesday	10/27/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Thursday	10/28/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Friday	10/29/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Saturday	10/30/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Sunday	10/31/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07	\$ 1,041.34	\$ 11,463.19
Monday	11/01/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Tuesday	11/02/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Wednesday	11/03/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Thursday	11/04/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Friday	11/05/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Saturday	11/06/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Sunday	11/07/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Monday	11/08/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Tuesday	11/09/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Wednesday	11/10/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Thursday	11/11/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Friday	11/12/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Saturday	11/13/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Sunday	11/14/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Monday	11/15/21	3,843,664.75	-	-	8,156,335.25	8,156,335.25	3,843,664.75	0.00250	26.69		1.85850%	421.07		
Tuesday	11/16/21	3,843,664.75	800,000.00	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Wednesday	11/17/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Thursday	11/18/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Friday	11/19/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Saturday	11/20/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Sunday	11/21/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		

PWW TD FALOC Analysis

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7/20/2021

Libor Rate Advances														
Day of Week	Date	Beginning Balance - Availability	Advances	Payments	Total Amount Borrowed	Total Borrowed - All Advances	Ending Balance - Availability	Unused Fee %	Unused Fee Amount	check total	LIBOR + 1.75%	Interest Expense	Monthly Unused Fee	Monthly Interest Expense
Monday	11/22/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Tuesday	11/23/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Wednesday	11/24/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Thursday	11/25/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Friday	11/26/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Saturday	11/27/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Sunday	11/28/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Monday	11/29/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Tuesday	11/30/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Wednesday	12/01/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Thursday	12/02/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Friday	12/03/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Saturday	12/04/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Sunday	12/05/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Monday	12/06/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Tuesday	12/07/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Wednesday	12/08/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Thursday	12/09/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Friday	12/10/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Saturday	12/11/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Sunday	12/12/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Monday	12/13/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Tuesday	12/14/21	3,043,664.75	-	-	8,956,335.25	8,956,335.25	3,043,664.75	0.00250	21.14		1.85850%	462.37		
Wednesday	12/15/21	3,043,664.75	800,000.00	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Thursday	12/16/21	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Friday	12/17/21	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Saturday	12/18/21	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Sunday	12/19/21	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Monday	12/20/21	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Tuesday	12/21/21	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Wednesday	12/22/21	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Thursday	12/23/21	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Friday	12/24/21	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Saturday	12/25/21	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Sunday	12/26/21	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Monday	12/27/21	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Tuesday	12/28/21	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Wednesday	12/29/21	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Thursday	12/30/21	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Friday	12/31/21	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Saturday	01/01/22	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Sunday	01/02/22	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Monday	01/03/22	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Tuesday	01/04/22	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Wednesday	01/05/22	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Thursday	01/06/22	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Friday	01/07/22	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Saturday	01/08/22	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Sunday	01/09/22	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Monday	01/10/22	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Tuesday	01/11/22	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Wednesday	01/12/22	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Thursday	01/13/22	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Friday	01/14/22	2,243,664.75	-	-	9,756,335.25	9,756,335.25	2,243,664.75	0.00250	15.58		1.85850%	503.67		
Saturday	01/15/22	2,243,664.75	807,865.00	-	10,564,200.25	10,564,200.25	1,435,799.75	0.00250	9.97		1.85850%	545.38		
Sunday	01/16/22	1,435,799.75	-	-	10,564,200.25	10,564,200.25	1,435,799.75	0.00250	9.97		1.85850%	545.38		
Monday	01/17/22	1,435,799.75	-	-	10,564,200.25	10,564,200.25	1,435,799.75	0.00250	9.97		1.85850%	545.38		
Tuesday	01/18/22	1,435,799.75	-	-	10,564,200.25	10,564,200.25	1,435,799.75	0.00250	9.97		1.85850%	545.38		
Wednesday	01/19/22	1,435,799.75	-	-	10,564,200.25	10,564,200.25	1,435,799.75	0.00250	9.97		1.85850%	545.38		
Thursday	01/20/22	1,435,799.75	-	-	10,564,200.25	10,564,200.25	1,435,799.75	0.00250	9.97		1.85850%	545.38		
Friday	01/21/22	1,435,799.75	-	-	10,564,200.25	10,564,200.25	1,435,799.75	0.00250	9.97		1.85850%	545.38		
Saturday	01/22/22	1,435,799.75	-	-	10,564,200.25	10,564,200.25	1,435,799.75	0.00250	9.97		1.85850%	545.38		
Sunday	01/23/22	1,435,799.75	-	-	10,564,200.25	10,564,200.25	1,435,799.75	0.00250	9.97		1.85850%	545.38		
Monday	01/24/22	1,435,799.75	-	-	10,564,200.25	10,564,200.25	1,435,799.75	0.00250	9.97		1.85850%	545.38		
Tuesday	01/25/22	1,435,799.75	-	-	10,564,200.25	10,564,200.25	1,435,799.75	0.00250	9.97		1.85850%	545.38		
Wednesday	01/26/22	1,435,799.75	-	-	10,564,200.25	10,564,200.25	1,435,799.75	0.00250	9.97		1.85850%	545.38		
													\$ 717.43	\$ 13,251.60
													\$ 560.79	\$ 15,035.57

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Libor Rate Advances

S:\p\Pennichuck\2021 PWW QCPAC Petition 21-023\Discovery\Staff DR Set 1 7-8-21\PWW Response Drafts\Attach Staff 1-21 Projected FALOC interest

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Libor Rate Advances

S:\p\Pennichuck\2021 PWW QCPAC Petition 21-023\Discovery\Staff DR Set 1 7-8-21\PWW Response Drafts\Attach Staff 1-21 Projected FALOC interest