

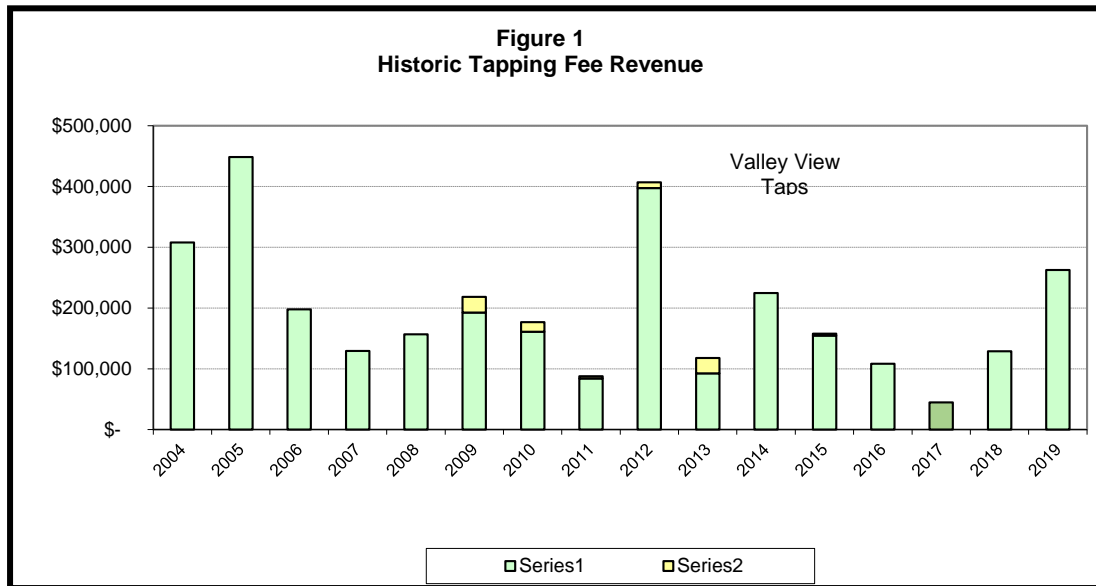
# Peters Township Sanitary Authority PROPOSED CAPITAL IMPROVEMENT PLAN FOR 2019 And 10-Year Capital Plan

## 1.0 INTRODUCTION

The Authority has included a capital improvement plan in its budget since 1996, and to a large extent it has been the effort that we invest in preparing the capital improvement plan, followed by implementing the plan during the year, which has helped the Authority achieve many of its objectives over the past two decades.

The Capital Plan recognizes the Authority continues in a reduced financial condition, attributed to the slowdown in the housing market, which reduces our tap fee revenue, as well as our growth in operating revenue. The 2017 Tapping Fee revenue of \$44,663 was at an all-time low. The Township's 2013 Comprehensive Plan was approved, and with the implementation of the rezoning to higher densities in 2017. The budgeted 2018 tapping fee revenue was \$408,000, with only \$128,559 received in revenues. There are several developments that did not proceed as anticipated. The developments included the Waters Senior Living, Brookwood Village, and Justabout Farms. These developments are budgeted for 2019.

Figure 1 compares our 2018 forecasted and 2019 projected annual tap fee revenue with the previous 14 years. As can be seen from the figure, tap fee revenue is significantly less today than prior to 2006. Note that 2012 was not a typical year in Tap Revenue due to General Purpose Tap Fees plus Special Purpose Tap Fees from the 29 Valley View properties.



*Note: The tap fee revenue for 2009 through 2015 includes tap fees reimbursed under Developer Construction Agreements. The developments with tap fee reimbursement agreements are described in Section 5.0.*

The Authority established that a \$1 million annual re-investment in our facilities should be considered the minimum necessary to maintain a “sustainable level of service”. See definition at right.

Sustainable Level of Service  
 A service level which provides the treatment and conveyance capacity for growth, while providing uninterrupted service to our customers, and meeting all regulatory requirements.

Thereby, necessitating regular sewer use rate increases to generate additional operating budget surpluses through the Equipment Replacement Allowance line item, which funds the capital improvement plan, in conjunction with tap fee revenue and investment interest.

This Equipment Replacement Allowance category was decreased to \$220,000 in the 2018 Operating Budget in order to maintain a reasonable user rate increase. It is expected to be increased in the future. At this time, there are significant capital reserves to fund the capital plan. This is as a result of capitalization of the bond debt payments, and reimbursement of engineering fees from the bond proceeds.

## 2.0 2018 CAPITAL IMPROVEMENT FUND (CIF) and CONSTRUCTION FUND EXPENDITURES

### 2.1 Summary of 2018 Expenditures

The Planned Capital Expenditures totaled \$7,798,422, with Projected totaling \$5,947,237. The unexpended is attributed to the delay in the DC WPCP, Dewatering facility, and the Rutledge ACP sewer project not requiring to be replaced.

#### Summary of Total Cumulative Project Expenditures to Date

Priority	Status	Project	Project Cost to Date
1	Completed	Sewer Line Camera	\$126,923
1	Phase 1 Completed	DC WWTP Replacement	\$19,188,583
2	Ongoing	DC WWTP Dewatering	\$90,805
3	Ongoing	DC Sewer Improvements	\$299,096
4	Ongoing	Hidden Brook Emergency Repair	\$111,953
5	Ongoing	Rutledge Repair	\$116,185
6	Ongoing	BR NPDES Renewal	\$22,286
7	Ongoing	DC NPDES Renewal	\$11,925
8	Completed	Stratford Manor PS Electrical	\$5,218
9	Ongoing	Stonehedge Truck Sewer	\$47,205
10	Ongoing	GIS Updates	\$6,715
11	Ongoing	USC BR PS Capital Improvements	\$47,888
12 & 13	Completed	BR,dsd,roof design,specterm	\$40,646
13	Ongoing	BR WPCP Roof	\$2,472
14	Completed	DC Minor Equipment	\$13,177

### 2.2 Current Status of the Capital Improvements and CIF Balance

The following table will provide the updated status of the Planned 2018 Capital Improvements. The Sources of Funds available were \$8,227,434, and the 2018 expenditures were \$5,947,237, leaving a balance of \$2,280,198.

**Table-I**  
Status of the 2018 Capital Improvement Projects

Priority		Adopted Budget	Approved Revised Budget	Actual 11/30/2018	Projected 12/31/2018	Variance
<b>Administration</b>						
10	GIS Updates	\$ 10,000	\$ 15,400	\$ 6,715	\$ 15,400	\$ -
	Sewerline Camera	-	126,923	126,923	126,923	(0)
16	Network Server	1,000	1,000	-	-	(1,000)
16	Misc Legal Financial	2,000	2,000	-	-	(2,000)
	<b>Total Administration</b>	<b>\$ 13,000</b>	<b>\$ 145,323</b>	<b>\$ 133,638</b>	<b>\$ 142,323</b>	<b>\$ (11,685)</b>
<b>Treatment</b>						
1	DC WWTP Legal, financ, fur	\$ 60,000	\$ 70,000	\$ 44,841	\$ 44,841	\$ (25,159)
1	DC WWTP Construction Servi	261,631	261,631	169,417	169,417	(92,214)
1	DC WWTP Construction	5,381,921	5,124,126	5,046,501	5,046,501	(77,625)
2	DC WWTP Dewatering	935,000	1,262,242	16,851	16,851	(1,245,391)
	<i>Subtotal DC WWTP</i>	<i>6,638,552</i>	<i>6,717,999</i>	<i>5,277,609</i>	<i>5,277,610</i>	<i>(1,440,389)</i>
6	BR NPDES Renewal	85,000	120,000	14,239	17,239	(102,761)
7	DC NPDES Renewal	85,000	50,000	94	94	(49,906)
14	DC Minor Equipment	10,000	10,000	13,177	13,177	3,177
12 & 13	BR Minor Improv,Roof,DSD	30,800	66,800	41,446	47,246	(19,554)
	<b>Total Treatment</b>	<b>\$6,849,352</b>	<b>\$ 6,964,799</b>	<b>\$ 5,346,565</b>	<b>\$ 5,355,366</b>	<b>\$ (1,609,433)</b>
<b>Sewer System</b>						
3	DC Sewer Improvements	\$ 43,300	\$ 43,300	\$ 47,433	\$ 47,433	\$ 4,133
4	Hidden Brook Emergency Rep	411,900	80,000	52,344	62,044	(17,956)
5	Rutledge Repair	330,000	330,000	115,808	202,381	(127,619)
8	Stratford Manor PS Electrical	10,000	10,000	5,218	5,218	(4,782)
9	Stonehedge Truck Sewer	100,000	100,000	43,877	51,877	(48,123)
11	USC BR PS Capital Improv	65,000	65,000	47,888	48,888	(16,112)
15	Field Brook Lining Project	40,000	40,000	31,709	31,709	(8,291)
15	Fairways PS Relocaiton	-	20,000	-	-	(20,000)
	<b>Total Sewer System</b>	<b>\$1,000,200</b>	<b>\$ 688,300</b>	<b>\$ 344,276</b>	<b>\$ 449,550</b>	<b>\$ (344,024)</b>
	<b>Total Expenditures</b>	<b>\$7,862,552</b>	<b>\$ 7,798,422</b>	<b>\$ 5,824,479</b>	<b>\$ 5,947,236</b>	<b>\$ (1,965,142)</b>

**Table-Ia  
Status of the 2018 Capital Improvement Projects**

Project	1	Construction of the DCWPCP Replacement Plant – Phase 1 Status: Complete
Project	2	Construction of the DCWPCP Dewatering Facility – Phase 2 Status: Construction started and ongoing
Project	3	DC Interceptor Replacement Design, Permitting, Engineering Status: Design and Permitting completed, construction anticipated for 2019. Construction incorporated into the 2019 Conveyance System Improvements Project.
Project	4	Design and Complete Hidden Book Sewer Replacement Status: Design and permitting completed, construction incorporated into the 2019 Conveyance System Improvements Project.
Project	5	Replace 1,500 LF of Rutledge Drive Sanitary Sewer Status: Accomplished rehabilitation of 2,900 LF of sewers via CIPP in lieu of replacement
Project.	6	Challenge of Draft Brush Run Plant NPDES Permit Status: Submitted a TRE work plan for disinfection by-products along with a compliance schedule to achieve Phosphorus permit limits. Evaluation of alternative options is ongoing.
Project	7	Challenge of Draft Donaldson’s Crossroads Plant NPDES Permit Status: Submitted permit application, awaiting draft permit from PADEP
Project	8	Stratford PS Power Feed Relocation Status: Complete
Project	9	Stonehenge Trunk Augmentation – Design Phase Status: Design complete, permit applications submitted.
Project	10	GIS Improvements Status: Ongoing
Project	11	USC BR PS Capital Improvements Status: Ongoing
Project	12	Brush Run Plant Roof Replacement – Design Status: Reevaluation of the project resulted in replacing the roof in-kind. Project to be bid end of 2018, construction 2019
Project	13	Brush Run Plant Lab Equipment Status: Complete
Project	14	DC Plant Miscellaneous Stock Yard Status: Deferred to 2019 due to Project schedule
Project	15	Other Sewer Lining Projects Status: Fieldbrook - Completed 160 LF of 8” pipe replacement, and 143 LF of CIPP pipe lining
Project	16	Miscellaneous Administration: Software/Legal/Financial Status: Undefined expenses not incurred
<b>Total Expenditures Planned: \$7,798,422      Projected Expenditures:      \$5,947,237</b>		

## 3.0 CAPITAL PLAN FOR 2019

### 3.1 Sources of Funds

This section describes the sources of funds for 2019 as well as discussing projections for future years. The Authority's capital improvement projects are funded by a combination of:

- General Purpose Tapping Fees
- Special Purpose Tapping Fees
- Assessments
- Operating Budget Surplus (Debt Service Cover, Equipment Replacement Allowance, and Capital Transfer)
- Investment Interest
- Grants, if any
- Borrowed Funds, if any

**Tapping Fees** – These are charges imposed on new customers as they connect to the sewer system. The current tapping fee is \$3,200/equivalent dwelling unit. The maximum amount a municipal authority can charge is governed by the formula prescribed in the Municipality Authorities Act. Essentially, it is the cost of the Authority's unencumbered infrastructure assets divided by the design treatment capacity (in gallons/day) to arrive at a cost/gallon of capacity. For the Authority this cost is \$12.05/gallon. Residential units require 258 gallons/day of capacity; therefore, the capacity charge is \$3,109, plus \$91 for the Customer Facilities/Connection Fee, which covers the permitting and inspection process. Non-Residential units are charged a tapping fee based on the estimated maximum monthly average day water consumption times the \$12.05/gallon, with a minimum consumption of 258 gallons/day. The tapping fee calculation was last updated in 2008. Review of the tap fee will be conducted in 2019.

**Tapping Fee Reimbursements** – All new customers connecting to the sewer system pay a tapping fee. However, under special circumstances the Authority may enter into a Tap Fee Reimbursement Agreement with a Developer, whereby the Developer constructs capital improvements for the Authority that are not otherwise required for its development, and dedicates the improvement to the Authority in exchange for future installments to be paid at such time when tapping fees are collected as units are connected in the development. While the Authority has used this mechanism only sparingly over the years. During 2009 two developments were completed that included Tap Fee Reimbursement Agreements. These developments are 1) Overlook Plan, which included reimbursement up to \$89,600 in tap fees; and 2) Willoughby Woods Plan (*now called Brookwood Villas*), which included reimbursement up to \$32,084 in tap fees. The Willoughby Woods exhausted its tap reimbursements in 2013; thereby, only the Overlook Plan Tap Fee Reimbursement Agreement remains, with three tap reimbursements available.

Detailed descriptions of the projects with Tapping Fee Reimbursements, and the remaining balance, are provided in Section 5.0 of this report.

*Tapping Fee Reimbursement Process* – For developments with Tap Fee Reimbursement Agreements, whenever a sewer tap is obtained, the tap fee paid is deposited in the CIF and recorded as tapping fee revenue. At a subsequent Board meeting, the tap fee reimbursement due the Developer is listed on the CIF's requisition as a Tap Reimbursement to the Developer, and approved by the Board. At that time the reimbursement becomes a CIF expense.

**Special Purpose Tapping Fees** – The Municipality Authorities Act provides for charging a Special Purpose Part to the tapping fee for special purpose facilities, such as sewer main extensions, that are applicable to a particular group of customers, based upon the cost of the facilities and the number of customers served. This provides an alternative to public improvement assessment programs for recovering the cost of sewer main extensions from the customers served. Since the Special Purpose Part of a tapping fee can be based on the design capacity of the facilities expressed in Equivalent Dwelling Units, the cost of a project can be equally distributed across all existing customers and all future customers served by the facility, and avoid the costly expenses associated with assessment programs. The Authority has four Special Purpose Tapping Fee districts established, as described in a memo at the end of the Capital Plan. Periodically, the Special Purpose Tapping Fee amounts are indexed forward using the Engineering News Record cost index, essentially adjusting the fee by the inflation index. The last adjustment was in July 2013. Review of the fee will be conducted in 2019.

The following sewer extensions were imposed a Special Purpose Part Tapping:

Project Name	Max. EDUs	Accept. Date	Spec. Purp. Fee, Initial	Spec. Purp. Fee Current/Date	10/31/17 Balance	Lots Outstanding
Severns Ext	3	12/13/2005	\$4,415.00	\$5,514, 7/31/2013	\$5,514	948 E. McM
Hays Road Ext. Engineering Only	4	10/11/2005	\$900.00	\$1,136, 7/31/2013	\$1,136	Parcel 540-002-04-03-0003-00
2007 E. McMurray Ext.	7	6/4/2008	\$7,501.14	\$8,800, 7/31/2013	\$8,800	864 E. McM
2012 Valley View Ext						
Component B	310	8/14/2012	\$870.00	\$899, 7/31/2013	\$224,750	277 projected
Component C	46	10/9/2012	\$2,330.00	\$2,407, 7/31/2013	\$33,690	14 lots
Component CL	20	10/19/2012	\$1,870.00	\$1,891, 7/31/2013	\$37,820	20 projected
Subtotal:	376					
Total:	390			<b>Total Balance:</b>	\$335,200	311 lots

**Assessments** – Historically, the Authority used sewer assessment programs to recover the cost of sewer extensions from the property owners benefiting. The most recent assessment program was for the Ivy Lane Sewer Extension project in 2003. The Authority allows sewer assessments (and Special Purpose Tapping Fees) to be paid on repayment schedules, and a number of repayment schedules still exist for the Ivy Lane assessments. Payments total approximately \$5,250 annually. The Authority also has two agricultural deferred assessments outstanding which total \$88,422. These are summarized in the table below. We do not expect either of these agricultural properties to develop during 2019. However, there may be a chance the Brookwood Road Extension one may subdivide due to rezoning to higher density in 2017, which would make the development of the parcel much more attractive.

Agriculture Deferments					
Project Year	Project Name	Act 71 Cert. Date	Property Name	Property Address	Assessment Amount
1989	Brookwood Rd. Ext	6/10/1992	Lushen	216 Sugar Camp Rd	\$73,000
1989	Beacon Manor Ext.	11/13/1991	Munroe	267 Thompsonville Rd	\$15,422
				<b>Total:</b>	<b>\$88,422</b>

**Operating Budget Surplus, Debt Service Coverage, and Equipment Replacement Allowance** – Any operating surplus remaining after expenses. The Authority’s 2016 Trust Indenture requires that we budget each year the annual debt service, plus 10%, which resulted in surplus at the end of the year and is transferred to the CIF.

The Authority also budgets an Equipment Replacement Allowance/Capital Transfer each year. If these funds are not used for equipment replacement during the year the remaining balance is transferred to the CIF. If there are no charges to the account, the balance is transferred to the CIF after final reconciliation of year-end expenses occurs in February, 2019.

The Authority frequently uses in the Operating Budget the line item Equipment Replacement Allowance as a “budget balancer” to postpone rate increases. For instance, it was budgeted at \$431,000 in 2017, but in 2018 Operating Budget a reduction to \$220,000 was made in order to lessen the required rate increase.

**Investment Interest** – The Authority prudently invests its CIF funds and Construction Funds in accordance with the Trust Indenture restrictions and the Municipality Authorities Act, staggering maturities to accommodate our cash flow needs. Currently, due to unusually low short-term and long-term interest rates the Authority does not have many investments. A description of the current investments follows.

- **PLGIT Tap & Assessment CD Program** – Currently we do not have any CDs in this program. PLGIT (Pa. Local Government Investment Trust) shops around for the best CD interest rates and provides the data to the Authority. CD purchases are managed by PLGIT to ensure that the FDIC insurance limit is not exceeded at any one banking institution.
- **Capital Improvement Fund** –These CIF funds are currently invested at CFS Bank in interest bearing accounts and one 3 year CD earning \$1.25%. The Authority may also invest in short-term government securities from time to time.

**Grants** – The following is a listing of grants received:

Year	Grant Program	Project	Grant	12/31/2017 Balance
2009	H2O PA	Brush Run Wet Weather	\$600,000	\$0
2009	Conservation Works	Blower VFDs/ DO Control	\$137,250	\$0
2010	LSA	Valley View Sewer Ext.	\$300,000	\$0
2010	H2O PA	Valley View Sewer Ext	\$225,000	\$0
2012	LSA	DC Plant Replacement Design	\$85,000	\$0
2013	NA	NA	\$0	NA
2014	Pa Small Water & Sewer	Stratford PS Force Main Replacement	\$56,000	\$0
2015	LSA	DC Plant Replacement Construction	\$500,000	\$0
2017	LSA	DC Interceptor Replacement	\$300,000	\$300,000
		<b>Total:</b>	<b>\$2,203,250.00</b>	<b>\$300,000.00</b>

Grant Applications Pending

The Authority has no grant applications pending at this time.

Sewage Planning Grants

The Township/Authority has been approved a planning grant for the following project:

- Donaldson’s Crossroads 537 Sewage Plan, grant amount: \$37,455, (confirmed, however, no funds budgeted by the state)

The grant proceeds are released by PaDEP after the planning document is approved by the PaDEP, provided funds are available in the state budget.

Future Grant Applications

A future grant opportunity is the 2019 Commonwealth Financing Authority (CFA) Small Water & Sewer Grant. A grant application in the amount of \$500,000 for the Stonehenge Truck Sewer Interceptor Improvements Project will be submitted in the fall of 2019.

## Borrowed Funds

- Pennvest loan for the 2003 Ivy Lane Sewer Extension project with a balance of \$128,838 as of December 31, 2018, at an interest rate of 2.774%.
- Bank note with Charleroi Bank for the 2012 Valley View Sewer Extension was retired October 2018.
- 2018 CFS Bank Loan, \$1,225,000 for the refunding of the \$425,000 Bank Note with Charleroi Bank, and \$800,000 to fund partial construction of the DC WWTP Dewatering Facility. The interest rate is 3.75%, 10-year loan with a 15-year amortization, balloon payment of \$487,883.07 due 11/1/2028.
- Pennvest loan for the 2017 DC WPCP Replacement project. The Loan is \$11,000,000 with a term of 20-years. The interest rate during the first 5-year period is 1.055%, with a rate of 1.835% for the remaining 15 years. Final draw in the amount of \$550,000 will be submitted in January 2019.
- Guaranteed Sewer Revenue Bond issue, Series 2017, in the amount of \$5,825,000 for the DC WPCP Replacement Project. The term of the bond issue is 25-years, and the interest rate is 2.80%. The balance as of December 31, 2018 is \$5,630,000.
- An application has been to be made to the Pennsylvania Pennvest Loan Program for the 2019 DC Sewer Interceptor Improvements and the Hidden Brook replacement. The application amount is estimated at \$4,700,000.

### 3.2 Recommended Capital Improvement for 2019

The funds available for CIF projects in 2019 are estimated as follows:

Balance of CIRF Funds	\$ 2,280,197
Tap and Assesments(prior year)	98,509
Equipment Replcmt Allowance (prior year)	220,000
Operating Surplus	204,000
DC wwtp PV, Bond, Grant, Loan	1,500,729
Sewer Projects - PV/Grant/Twp/SD Portion	4,060,000
<b>Total Capital Funding</b>	<b>\$ 8,363,434</b>

The Authority's goal is to maintain a minimum balance of \$500,000 balance in the CRF at all times.



**Table-III**  
**RECOMMENDED 2019 CAPITAL IMPROVEMENT PROJECTS**

Project	1	Construction of DC WPCP Dewatering Facility Est 2019 Projected Costs: \$1,401,783
Project	2	Construction of the Conveyance System Improvement Project Est. 2019 cost for Oakwood Road and Giant Oaks Interceptor: \$4,009,358
Project	3	Construction of the Conveyance System Improvement Project Est. 2019 cost Hidden Book Sewer Replacement & Pump Station: \$444,483
Project	4	Brush Run Plant Equipment Improvements: Conveyor Belt, BFP & Effluent Pump Repairs Est. 2019 cost to complete: \$21,400 (BR Minor Improvements)
Project.	5	Brush Run Plant NPDES Testing, Support and Construction in Response to New NPDES Permit Limits Est. 2019 cost to complete: \$117,000
Project	6	Challenge of Draft Donaldson's Crossroads Plant NPDES Permit Est. 2019 cost to complete: \$12,000
Project	7	Brush Run Plant Instrumentation and SCADA Upgrades Est. 2019 cost to complete: \$10,000
Project	8	Coating of Vactor Truck Holding Tank Est. 2019 cost to complete: \$7,500
Project	9	USC BR PS Capital Improvements, New Fairways Pump Station/Force Main to USC Est. 2019 cost to complete: \$75,000
Project	10	Brush Run Plant Roof Replacement Est. 2019 cost to complete: \$75,000 (BR Minor Improvements)
Project	11	Brush Run Plant Laboratory Upgrades and Equipment Est. 2019 cost to complete: \$12,700 (BR Minor Improvements)
Project	12	DC Stock Yard Material Est. 2019 cost to complete: \$10,000
Project	13	Other Sewer Lining Projects / Emergency Repairs Est. 2019 cost to complete: \$50,000
Project	14	Miscellaneous Administration: Software/Legal/Financial Est. 2019 cost to complete: \$15,000
<b>Total Actual</b>		<b>\$6,277,610</b>

**Table IV – Recommended 10-Year Capital Plan**

	Projected 2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
<b>SOURCES OF FUNDS</b>										
Balance of CIRF Funds	\$ 4,050,664	\$ 2,280,197	\$ 2,085,824	\$ 1,995,752	\$ 2,396,252	\$ 2,270,152	\$ 1,145,152	\$ 247,652	\$ 120,152	\$ 107,652
Tap and Assessments (prior year)	60,000	98,509	262,400	112,000	54,400	20,000	20,000	20,000	20,000	20,000
Debt Cover/Capital Transfer	35,119	-	-	-	-	-	-	-	-	-
Equipment Replmt Allowance (prior year)	428,348	220,000	220,000	350,000	350,000	350,000	350,000	400,000	400,000	400,000
Operating Surplus	715,358	204,000	44,000	102,500	52,500	52,500	52,500	52,500	52,500	52,500
DC w/wtp PV, Bond, Grant, Loan	2,937,945	1,500,729	2,000,000	-	-	-	-	-	-	-
Sewer Projects - PV/Grant/Twp/SD Portion	-	4,060,000	1,342,000	-	-	-	-	-	-	-
Sale Proceeds Piney Fork property	-	-	150,000	-	-	-	-	-	-	-
<b>TOTAL CAPITAL FUNDING</b>	<b>\$ 8,227,434</b>	<b>\$ 8,363,434</b>	<b>\$ 6,104,224</b>	<b>\$ 2,560,252</b>	<b>\$ 2,853,152</b>	<b>\$ 2,692,652</b>	<b>\$ 1,567,652</b>	<b>\$ 720,152</b>	<b>\$ 592,652</b>	<b>\$ 580,152</b>
<b>CAPITAL EXPENDITURES</b>										
<b>TREATMENT PLANTS</b>										
BR Minor Improvements	47,246	109,100	37,500	-	20,000	20,000	-	40,000	40,000	40,000
BR SCADA Improvements	-	6,500	-	-	18,000	6,300	-	-	30,000	-
BR Security Improvements	-	-	-	-	-	35,000	-	-	-	-
BR Belt Press Replacement	-	-	-	-	50,000	350,000	400,000	-	-	-
BR Blower Upgrade/Replacement	-	-	125,000	-	-	100,000	-	-	-	-
BR NPDES Permit Renewal	17,239	117,000	-	-	35,000	-	-	-	-	40,000
BR WWTP Upgrade /Outfall Relocation	-	-	2,400,000	-	-	-	-	-	-	-
DC NPDES Permit Renewal	94	12,000	10,000	64,000	-	35,000	-	-	40,000	25,000
DC Minor Improvements	13,177	10,000	-	-	-	-	-	-	-	-
DC Financial & Legal & Ins. Util. Other	44,841	5,000	-	-	-	-	-	-	-	-
DC Plant Construction Phase Eng	169,417	-	-	-	-	-	-	-	-	-
DC Plant Construction	5,046,501	-	-	-	-	-	-	-	-	-
DC Dewatering Engineering & Const&Demo	16,851	1,401,783	-	-	-	-	-	-	-	-
<b>SEWER SYSTEM</b>										
DC Interceptor Improvements	47,433	4,009,358	707,534	-	-	-	-	-	-	-
Straford PS Electrical Relocation	5,218	-	-	-	-	-	-	-	-	-
Hidden Brook Emergency Sewer Repair	62,044	444,483	78,438	-	-	-	-	-	-	-
Stonehenge Trunk Augmentation	51,877	600,000	-	-	-	-	-	-	-	-
Rutledge ACP Sewers	202,381	14,886	-	-	-	-	-	-	-	-
Cross gates Bremen Lane Replace	-	-	-	-	400,000	500,000	-	300,000	300,000	-
VB Inter Augmentations	-	-	-	50,000	-	250,000	450,000	100,000	-	-
Crestview Acres Sewer Replace	-	-	-	-	-	-	-	-	-	-
USC BR PS Capital Improvements	48,888	75,000	-	-	-	-	-	-	-	-
Other Sewers/Lining/Emergency Repairs	31,709	50,000	100,000	-	-	200,000	400,000	100,000	-	-
Sewer Line Camera/Flow Meters	126,922	-	-	-	-	-	20,000	-	-	-
Vehicles	-	7,500	40,000	50,000	60,000	40,000	50,000	60,000	60,000	50,000
<b>OFFICE ADMINISTRATION</b>										
Tap Fee Reimbursements	-	-	-	-	-	3,200	-	-	-	-
Server Hardware/Software	-	15,000	-	-	-	-	-	-	15,000	-
Phone System	-	-	-	-	-	8,000	-	-	-	-
GIS Improvements	15,400	-	-	-	-	-	-	-	-	-
Legal/Financial	-	-	-	-	-	-	-	-	-	-
Piney Fork Property (sell portion)/ 537 Plan	-	-	10,000	-	-	-	-	-	-	-
<b>TOTAL CAPITAL EXPENSES</b>	<b>\$5,947,237</b>	<b>\$6,277,610</b>	<b>\$4,108,472</b>	<b>\$164,000</b>	<b>\$583,000</b>	<b>\$1,547,500</b>	<b>\$1,320,000</b>	<b>\$600,000</b>	<b>\$485,000</b>	<b>\$155,000</b>
<b>ENDING BALANCE</b>	<b>\$2,280,198</b>	<b>\$2,085,824</b>	<b>\$1,995,752</b>	<b>\$2,396,252</b>	<b>\$2,270,152</b>	<b>\$1,145,152</b>	<b>\$247,652</b>	<b>\$120,152</b>	<b>\$107,652</b>	<b>\$425,152</b>

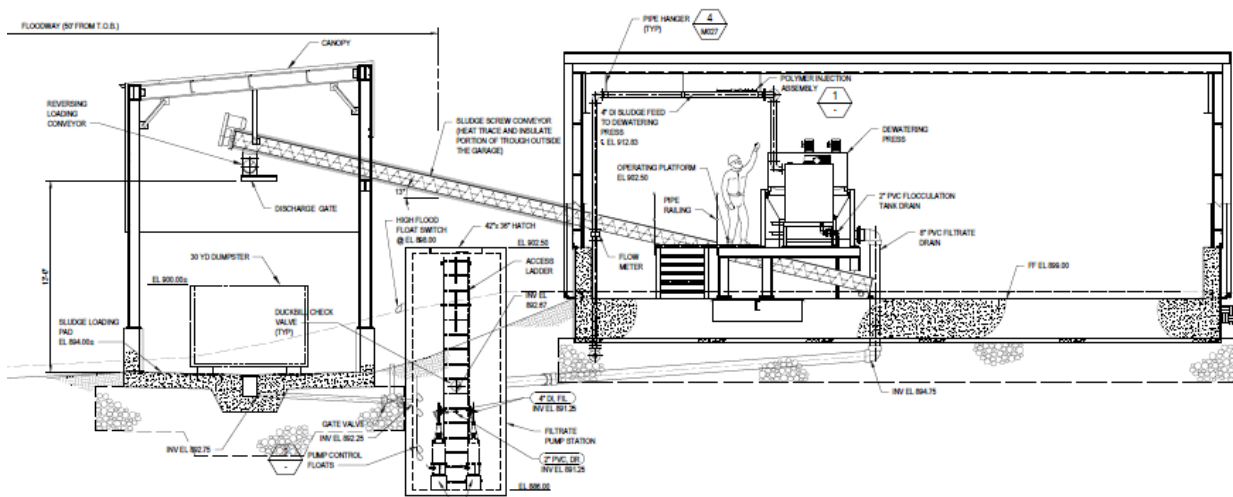
### **3.2.1 Project Descriptions**

#### **Project No. 1. Continue with Construction of DC Dewatering Facility**

This project involves constructing a sludge dewatering facility on the site of the original Donaldson Crossroads treatment plant. Although not included in the original plant construction contract, the need for a facility to support the management of biosolids generated by the new DC Plant was recognized. In May 2018 the Authority Board authorized change orders to the current contractors for addition of the dewatering facility.

Construction for the project will include erection of a 44'x44' steel building to house the volute dewatering press, a canopy and containment area for housing the cake storage container, plus all axillary piping and automated controls to transfer biosolids from the treatment plant to the dewatering facility. The new facility will supplement the dewatering operations currently conducted at the Brush Run WPCP, where dewatering equipment was installed circa 1984.

The project is being financed by a \$800,000 bank loan and Authority Capital Improvement Funds.



#### **Project No. 2. Construction of the Conveyance System Improvement Project – Oakwood Road and Giant Oaks Interceptors**

PaDEP required the Authority enter into a formal Corrective Action Plan (CAP) in 2015 for the DC treatment plant and sewer system. As part of this CAP, interceptor augmentation of the Giant Oaks and Oakwood Road Interceptors is required. The approved CAP schedule required the interceptors to be upgraded subsequent to the completion of the DC WPCP project.

The design for the interceptor augmentation projects was completed and permit applications were submitted late fall 2017, with all required permits being received by October 2018. Bid advertisement for the construction contracts is expected in January 2019 with award in March 2019. An application for project financing was submitted to PENNVEST in October 2018 with an anticipated funding approval in January 2019.

The estimated total project cost for the interceptor improvements is \$5.01 million, which includes both interceptors. The project will be financed by a \$4.25 million Pennvest loan, a \$300,000 LSA grant, and the Authority's Capital Improvement Funds.

### **Project No. 3. Construction of the Conveyance System Improvement Project – Hidden Brook Sewer Replacement and Pump Station**

It was discovered that the two sewer segments that were constructed on caissons are exhibiting excessive settlement, with one segment of pipe separating. The Consulting Engineer and the Geotechnical Engineer recommended grouting and abandoning the defective segments, while redesigning the location and the grade. This will require the construction of a small pump station to convey the upstream sewage flows to meet the proposed alignment change and pipe elevations. The design commenced in 2017 with the funds from the developer's maintenance bond. All design has been complete and all permits have been received. The financing of the project has been consolidated into the Conveyance System Improvement Project due to the favorable lending rates. The estimated total project cost of \$645,000 will be funded with a \$584,000 Pennvest Loan and the Authority's Capital Improvement Funds.

### **Project No. 4. Brush Run Plant Equipment Improvements**

Several equipment replacements and repairs have been identified for 2019 to address perpetual maintenance issues impacting efficiency on plant operations. The belt filter press pump has undergone numerous repairs and rebuilds and is at the end of its useful life, thus replacement of the pump has been scheduled.

The effluent pumping system has been operating inefficiently for some time, failing to provide sufficient flow and pressure during multiple-use demand. In addition to rebuilding the pumps, electrical support will be needed to diagnose and replace the electrical components controlling the pressure and flow of the system.

The conveyor belt that serves the belt filter press has been repeatedly patched and repaired in multiple locations and is at the end of its useful life, thus the belt has been scheduled for replacement in 2019.

### **Project No. 5. Brush Run Plant Testing, Support and Construction**

The NPDES Permit was issued by PADEP on July 2018 with an effective date of August 1, 2018. The new permit identifies several toxins (chloroform, dichlorobromomethane, phosphorus, and bromide) present in the treated effluent in excess of water quality criteria. The Authority has engaged the services of GHD, Inc. as the Project Engineer for guidance in addressing the newly imposed limits. On behalf of the Authority, GHD submitted a Toxic Reduction Evaluation (TRE) work plan to PADEP in October 2018; furthermore, the intended purpose of the TRE is to determine the source of the toxins and potential methods of elimination. As per the TRE work plan, extensive sampling and outside laboratory analysis will be required in 2019.

To continue the effort of addressing the new permit limits, the Authority will require GHD's technical support interpreting the data collected while advising as to the best suited method or technology for elimination of the toxins. Engineering services will be needed for the design, construction, and management of the new treatment equipment and or method.

### **Project No. 6. Challenge to Draft DC WPCP NPDES Permit**

The DC Plant's NPDES Permit renewal was submitted October 10, 2017, as required 180 days prior to the March 31, 2018 expiration date. It is expected PADEP will impose similar limits as stated above in the Brush Run Permit. Technical support from GHD has been requested to challenge the anticipated limits.

### **Project No. 7. Brush Run Plant Instrumentation and SCADA Upgrades**

Currently there is only one Dissolved Oxygen (DO) probe in each aeration tank. To incorporate redundancy and the ability to maintain DO control should one DO probe fail, a second DO probe will be added to each aeration tank. Probes from the dismantled DC WPCP will be utilized; however, services by the contracted programmer will be required to integrate the new instruments into the SCADA system. A new probe was also budgeted should the used probes prove inoperable.

### **Project No. 8. Coating of the Vactor Truck Holding Tank**

The holding tank for the Vactor vacuum truck encounters abrasive material due to day-to-day use of the equipment. To extend the useful life of the 2004 Vactor, the holding tank will have a protective coating applied to the inner tank walls.

### **Project No. 9. Upper St. Clair Brush Run Pump Station Capital Improvement – Fairways Pump Station Upgrades and New Forcemain to USC**

Due to wet weather related issues at the USC Brush Run Pump Station, it has been agreed that sewage flows from the Deerfield Manor service area of USC that utilize the Brush Run Pump Station will be redirected by gravity flow into the PTSA sanitary system. As per the recently adopted Second Amendment to the 1950 Agreement, all parties concur that sewage flows from the PTSA's existing Fairway Estates Pump Station will be redirected by a new forcemain to the USC collection system. Costs associated with design, engineering, and construction are budgeted at \$75,000.

### **Project No. 10. Brush Run WPCP Roof Replacement**

The original portion of the laboratory/press building dates back to 1964 with three separate additions constructed through the years. The entire building is a flat roof, constructed from concrete deck planks with the newest addition, the press room/garage, constructed out of steel planks. The perimeter consists of a parapet wall approximately 2 feet tall. The caps on the parapet wall are concrete and porous. The rubber membrane roof has been replaced at least twice. Although multiple attempts have been made over the past several years to patch and repair the current membrane roofing system on the building, the roof condition has declined to a point that allows water to leak into the building, creating water-damage related issues and concerns. Discussions to construct a gable roof proved cost prohibitive. The project will entail replacement of the roof in-kind, installing a metal cap on the parapet wall, and replacing the existing five skylights.

### **Project No. 11. Brush Run Plant Laboratory Upgrades and Equipment**

The aforementioned leaking roof at Brush Run WPCP has resulted in water damage to the floors and laboratory cabinetry. To ensure conditions necessary for a laboratory environment are maintained, replacement of the cabinetry and flooring is prudent in conjunction with industrial cleaning and painting. The existing incubator (circa 1986) utilized for Biological Oxygen Demand (BOD) analysis is nearing the end of its useful life. Upgrading this necessary piece of laboratory equipment is essential to support proper laboratory standards and analysis.

### **Project No. 12. DC Plant Demolition and Stock Yard Material**

The previous intention for the old treatment plant (after decommission) was to retain the subsurface treatment vessels. Current management has reevaluated the practicality of retaining and utilizing the treatment vessels, and decided demolition of the vessels would be prudent due to maintenance and safety concerns. Furthermore, demolition of the subsurface treatment plant would allow the Authority to utilize the yard space for storage bins, racks for: manhole castings, concrete adjustment rings, manhole sections, pipe storage, gravel, top soil storage, etc. Projections for demolition and backfilling is estimated at \$100,000 and \$10,000 for stockyard construction.

### **Project No. 13. Other Sewer Lining Projects / Emergency Repairs**

In 2018 abnormal wet-weather events increased in frequency throughout Western Pennsylvania. Peters Township and other local communities experienced multiple landslides resulting from the saturated soils; furthermore, the Authority incurred approximately \$70,000 in sanitary sewer repair costs directly related to two landslides that dislodged the sanitary collection pipe. As these weather patterns continue, forecasters predict similar weather patterns for 2019, thus occurrences of landslides are expected to continue. The Authority budgeted \$50,000 for potential emergency sewer repairs or lining.

### **Project No. 14 Miscellaneous Administration: Software/Legal/Financial**

The existing system-server that supports the office computer network is 7 years old, and typically computer manufacturers recommend replacing equipment over 5-7 years old as they discontinue the manufacturing of parts to support the hardware. The new server will include a new, next business day onsite replacement from Dell. It also includes the latest in hardware technology from Dell which allows for better performance and access to files, applications, and faster login times for each workstation. The server will be virtualized with VMware, which permits multiple operating systems on a single server. This feature provides the ability to separate each function or role the relative operating system has on the server, allowing a specific operating system to be rebooted without taking the entire server offline while continuing to support other server related operations.

Virtualizing the server provides additional enhancements listed below:

- Faster restore times during a system failure.
- Minimized downtime for full system operation in a disaster recovery situation.
- Restoration of the server operating system to any piece of hardware (server, workstation, laptop). VMware runs on the software layer and not the physical hardware layer as in older technology.
- Installation of a virtual workstation on the server allows 3<sup>rd</sup> party vendors secure remote access to troubleshoot their software without giving them admin access to the server.

## **4.0 FUTURE YEARS CAPITAL PROJECTS**

The 10-year capital plan beyond 2019 is summarized in the Table IV. It identifies the revenues and sources of funds at the top of the page and capital expenditures on the lower half. Table IV is used to identify the cash flow required to construct the known or anticipated projects. One of the objectives of the 10-year capital plan is to manage our CIRF balance at \$500,000 or greater. As can be seen from Table IV the CIF balance remains at \$500,000 or above through 2027. The projects planned beyond 2019 are not intended to be all inclusive, but provide a magnitude of cash flow requirements. In order to achieve the necessary cash flow, the Equipment Replacement Allowance to generate surplus funds will need to be regularly increased.

### **2020 through 2022 Projects/Expense Summary**

#### **Treatment Plants:**

- Brush Run WPCP Minor Improvements:
  - Paving Replacement \$37,500 (2020)
- Brush Run Belt Filter Press Replacement - Design \$50,000 (2022)
- Brush Run SCADA System Computer Equipment and Software Upgrades \$18,000 (2022)
- Brush Run WPCP Blower No. 1 Replacement \$125,000 (2020)
- Brush Run WPCP Treatment Upgrade (outfall relocation) \$2,400,000 (2020)
- Brush Run WCPC NPDES Permit Renewal \$35,000 (2022)
- DC Permit Renewal \$74,000 (2020-2021)

**Sewer System:**

- Stonehenge Truck Augmentation \$600,000 (2020)
- Hidden Brook Sewer Repair (restoration) \$78,438 (2020)
- Vehicles \$40,000 (2020), \$50,000 (2021), \$60,000 (2020)
- Valleybrook Interceptor Lower Palipetz Design \$450,000 (2021-2022)
- Miscellaneous Sewers Lining Project \$100,000 (2020)

**Office and Administration:**

- Piney Fork 537 Plan \$10,000. Once the plan is completed, and the best alternative chosen is to construct a small pump station, the property will be subdivided and the portion of property and structure will be sold. The anticipated net revenue received is \$150,000. (2020)

**2023 through 2027 Projects/Expenses**

**Treatment Plants:**

- Brush Run WPCP Minor Improvements: Projected \$140,000 (2023-2027)
- Brush Run SCADA System Computer Equipment and Software Upgrades \$36,300
- Brush Run Security Improvements \$35,000
  - CCTV and Actuated Gate
- Brush Run WPCP Belt Press Replacement \$750,000 (2023-2024)
- Brush Run WPCP Digester Blower Replacement \$100,000 (2023)
- Brush Run WPCP NPDES Permit Renewal \$40,000 each (2027)
- DC WCPC NPDES Permit Renewal \$35,000 (2023)
- DC WPCP Minor Improvements: Projected \$65,000

**Sewer System**

- Valleybrook Augmentation Upper Palipetz \$500,000 (2023), \$300,000 (2026)
- Crestview Acres Sewer Replacement \$800,000 (2023-2024)
- Crossgates Bremen Lane Sewer Replacement \$300,000 (2025)
- Undefined Sewer Lining/Repair Projects \$750,000
- Sewer Flow Meters \$20,000
- Vehicles \$260,000

**Office and Administration**

- Tap Fee Reimbursements \$3,200
- Network Server – Hardware and Software \$15,000 (2026)
- Office Phone System \$8,000 (2023)

**5.0 TAP REIMBURSEMENT PROJECT DESCRIPTIONS**

The following project description is for the only remaining project that includes tap fee reimbursements.

**Maple Lane Pump Station** – The Overlook Plan was going to require a new sewage pumping station

that would be located just several hundred feet downstream of the Authority's existing Timbercrest Pump Station, which was constructed in 1972. The Developer agreed to increase the capacity of his proposed pump station from 27 units to 64 units to provide for the 37 units from the Timbercrest Plan. The Authority participated in specific capacity related pump station tasks. The total pump station/force main project cost exceeded \$500,000; however the Authority only participated in \$391,000 of the cost, of which \$199,030 was the Authority's share. The Authority paid \$109,430 of this total directly, paying for the design engineering, construction observation, emergency generator, and other equipment. The \$89,600 balance was paid through tap fee reimbursements. The balance in tap fee reimbursements as of November 30, 2017 was \$9,600.

### **End of Report**