
MS4 Information	
Jurisdiction	Frederick County, Maryland
Contact Name	Shannon Moore
Phone	301.600.1413
Address	30 North Market St
City	Frederick
State	Maryland
Zip	21701
Email	smoore@frederickcountymd.gov
Baseline Treatment Requirement (Acres)	1981.00
Permit Num	11-DP-3321 MD0068357
Reporting Year	2019

Check with MDE Geodatabase:

Should match Permit info table of Geodatabase, except for Impervious Acre Baseline-- that should match Impervious Surface Table.

VERSION 2-28-18

Article 4-202.1(j)(1)(i)1: Actions that will be required of the county or municipality to meet the requirements of its National Pollutant Discharge Elimination System Phase I Municipal Separate Storm Sewer System Permit.

Note: To identify all "actions" required under the MS4 permit, provide an executive summary of the jurisdiction's MS4 programs. See MDE's FAP Guidance. For proposed actions to meet the impervious surface restoration plan, fill in the table below.

Baseline: 1,981 **Requirement:** 20%

REST BMP TYPE*	BMP CLASS	IMP ACRES	IMPL COST	% ISRP COMPLETE	IMPL STATUS**	PROJECTED IMPL YR
Operational Programs						
VSS	A	96	\$45,710	4.8%	P	FY21
VSS	A	96	\$45,710	4.8%	P	FY22
VSS	A	96	\$45,710	4.8%	P	FY23
Average Operations Next Two Years (FY2019-FY2020)***						
Average Operations Permit Term (FY2015-FY2020)***						
		96.3	\$292,297	5%		
Average Operations Permit Term and Projected Years (FY2015-FY2022)***						
		96.1	\$338,007	5%		
Capital Projects						
FPU	A	5.38	\$0	0.3%	UC	FY21
FPU	A	0.12	\$21,464	0.0%	UC	FY21
FPU	A	0.09	\$3,567	0.0%	UC	FY21
FPU	A	0.92	\$21,464	0.0%	UC	FY21
FPU	A	2.15	\$21,464	0.1%	UC	FY21
FPU	A	1.82	\$21,464	0.1%	UC	FY21
FPU	A	0.21	\$3,567	0.0%	UC	FY21
FPU	A	3.98	\$39,761	0.2%	UC	FY21
FPU	A	0.49	\$21,464	0.0%	UC	FY21
FPU	A	1.36	\$21,464	0.1%	UC	FY21
FPU	A	0.10	\$3,567	0.0%	UC	FY21
FSND	S	14.91	\$461,815	0.8%	UC	FY21
FSND	S	4.39	\$295,000	0.2%	UC	FY21
PWED	S	1.90	\$245,568	0.1%	UC	FY21

PWED	S	6.78	\$245,658	0.3%	UC	FY21
PWED	S	11.75	\$1,000,450	0.6%	UC	FY21
PWED	S	10.39	\$380,141	0.5%	P	FY21
PWET	S	12.71	\$732,383	0.6%	UC	FY21
PWET	S	7.99	\$302,849	0.4%	P	FY21
STRE	A	14.30	\$30,000	0.7%	UC	FY21
STRE	A	4.00	\$280,000	0.2%	UC	FY21
FPU	A	0.44	\$3,382	0.0%	UC	FY22
FPU	A	7.96	\$61,892	0.4%	UC	FY22
FPU	A	0.81	\$263,315	0.0%	UC	FY22
FPU	A	4.17	\$47,571	0.2%	UC	FY22
FPU	A	3.83	\$61,892	0.2%	UC	FY22
FPU	A	6.60	\$99,436	0.3%	UC	FY22
FPU	A	0.21	\$2,911	0.0%	UC	FY22
FPU	A	1.01	\$40,308	0.1%	UC	FY22
FPU	A	0.14	\$1,940	0.0%	UC	FY22
FPU	A	2.90	\$416,293	0.1%	UC	FY22
FPU	A	6.60	\$263,315	0.3%	UC	FY22
FPU	A	5.74	\$230,668	0.3%	UC	FY22
FPU	A	0.33	\$12,221	0.0%	UC	FY22
FPU	A	2.31	\$91,743	0.1%	UC	FY22
FPU	A	0.85	\$32,172	0.0%	UC	FY22
FPU	A	0.12	\$1,663	0.0%	UC	FY22
FPU	A	2.49	\$12,221	0.1%	UC	FY22
FPU	A	10.48	\$416,293	0.5%	UC	FY22
FPU	A	0.55	\$7,272	0.0%	UC	FY22
FPU	A	2.40	\$61,892	0.1%	UC	FY22
ITRN	S	14.38	\$632,232	0.7%	P	FY22
PWED	S	24.53	\$541,742	1.2%	P	FY22
PWED	S	2.07	\$552,698	0.1%	P	FY22
PWET	S	18.71	\$891,292	0.9%	P	FY22
STRE	A	13.80	\$232,394	0.7%	P	FY22
STRE	A	49.34	\$1,899,510	2.5%	P	FY22
STRE	A	24.14	\$4,529,333	1.2%	P	FY22
STRE	A	23.98	\$681,711	1.2%	P	FY23

STRE	A	19.00	\$549,980	1.0%	P	FY23
STRE	A	18.00	\$521,560	0.9%	P	FY23
STRE	A	5.00	\$147,100	0.3%	P	FY23
FPU	A	10.33	\$413,219	0.5%	P	FY23
FPU	A	0.72	\$28,694	0.0%	P	FY23
FPU	A	0.47	\$18,679	0.0%	P	FY23
FPU	A	6.83	\$273,373	0.3%	P	FY23
FPU	A	0.24	\$9,548	0.0%	P	FY23
FPU	A	0.51	\$20,469	0.0%	P	FY23
FPU	A	2.03	\$81,319	0.1%	P	FY23
FPU	A	1.87	\$74,707	0.1%	P	FY23
FPU	A	0.25	\$10,135	0.0%	P	FY23
FPU	A	2.06	\$82,412	0.1%	P	FY23
FPU	A	5.16	\$206,233	0.3%	P	FY23
FPU	A	0.81	\$32,486	0.0%	P	FY23
FPU	A	2.71	\$108,506	0.1%	P	FY23
FPU	A	2.46	\$98,565	0.1%	P	FY23
FPU	A	1.12	\$44,647	0.1%	P	FY23
FPU	A	1.91	\$76,545	0.1%	P	FY23
FPU	A	5.08	\$203,164	0.3%	P	FY23
FPU	A	0.99	\$39,643	0.1%	P	FY23
FPU	A	2.25	\$89,859	0.1%	P	FY23
MSWG	E	0.30	\$41,985	0.0%	P	FY23
PWED	S	13.60	\$67,005	0.7%	P	FY23
PWED	S	9.30	\$523,128	0.5%	P	FY23
PWED	S	10.42	\$468,556	0.5%	P	FY23
PWED	S	17.68	\$695,542	0.9%	P	FY23
PWED	S	7.54	\$408,411	0.4%	P	FY23
PWED	S	20.02	\$723,761	1.0%	P	FY23
PWED	S	9.10	\$343,533	0.5%	P	FY23
PWED	S	17.85	\$663,078	0.9%	P	FY23
PWED	S	6.50	\$509,800	0.3%	P	FY23
PWED	S	24.19	\$896,612	1.2%	P	FY23
PWED	S	2.23	\$690,513	0.1%	P	FY23
PWED	S	28.41	\$863,052	1.4%	P	FY23

PWET	S	11.60	\$435,163	0.6%	P	FY23
STRE	A	6.80	\$269,898	0.3%	P	FY23
STRE	A	12.00	\$459,820	0.6%	P	FY23
STRE	A	19.60	\$865,684	1.0%	P	FY23
STRE	A	16.00	\$604,760	0.8%	P	FY23
Subtotal Capital Next Two Years (FY2019-FY2020)		0.00	\$0	0%		
Subtotal Capital Permit Term (FY2015-FY2020)		550.61	\$18,099,105	27.8%		
Subtotal Capital Permit Term and Projected Years (FY2015-FY2022)		1210.17	\$47,002,672	61.1%		
Other						
Subtotal Other Next Two Years (FY2019-FY2020)		0	\$0	0.00%		
Subtotal Other Permit Term (FY2015-FY2020)		1334	\$11,156,922	67.3%		
Subtotal Other Permit Term and Projected Years (FY2015-FY2022)		1334	\$11,156,922	67.3%		
Total Next Two Years (FY2019-FY2020)		0.0	\$0	0.0%		
Total Permit Term (FY2015-FY2020)		1981.0	\$29,548,324	100.0%		
Total Permit Term and Projected Years (FY2015-FY2022)		2640.4	\$58,497,601	133.3%		

Check with MDE Geodatabase:

Type, class, impervious acres, implementation cost and implementation status should match the various geodatabase tables for BMPs (AltBMPLine, AltBMPPoint, AltBMPPoly, and RestBMP)-- aggregated by type and status.

*Use BMP domains from MDE Geodatabase.

**Complete, Under Construction, Planning, or Proposed

***IMPL COST is a summation and not an average.

VERSION 2-28-18

Article 4-202.1(j)(1)(i)2: Projected annual and 5-year costs for the county or municipality to meet the impervious surface restoration plan requirements of its National Pollutant Discharge Elimination System Phase I Municipal Separate Storm Sewer System Permit.

DESCRIPTION	PAST UP THRU FY 2017	CURRENT YEAR FY 2018	PROJECTED YEAR 1 FY 2019	PROJECTED YEAR 2 FY 2020	PROJECTED YEAR 3 FY 2021	PROJECTED YEAR 4 FY 2022	PROJECTED YEAR 5 FY 2023	TOTAL COSTS
Operating Expenditures (costs)								
Street Sweeping Program	\$301,888	\$23,591	\$31,016	\$31,016	\$31,946	\$32,905	\$33,892	\$387,511
Inlet Cleaning	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Septic Pumpout Rebate	\$0	\$25,000	\$25,000	\$50,000	\$50,000	\$50,000	\$50,000	\$100,000
Support of Capital Projects	\$738,283	\$104,302	\$357,551	\$570,728	\$570,728	\$570,728	\$570,728	\$1,770,864
Debt Service Payment	\$19,414	\$59,620	\$262,974	\$332,367	\$569,973	\$569,973	\$569,973	\$674,375
Capital Expenditures (costs)								
General Fund (Paygo)	\$9,104,358	\$3,661,951	\$3,018,599	\$3,181,950	\$1,415,000	\$180,000	\$180,000	\$18,966,858
WPR Fund (Paygo)	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Debt Service	\$2,611,805	\$4,750,000	\$5,092,000	\$3,863,449	\$4,915,543	\$6,087,401	\$5,379,702	\$16,317,254
Grants & Partnerships	\$3,433,200	\$424,700	\$1,366,845	\$130,000	\$130,000	\$130,000	\$130,000	\$5,354,745
Other (please stipulate capital expenditure)*	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal operation and paygo:	\$10,163,943	\$3,874,464	\$3,695,140	\$4,166,061	\$2,637,648	\$1,403,606	\$1,404,593	\$27,345,456
Total expenditures:	\$16,208,948	\$9,049,164	\$10,153,985	\$8,159,510	\$7,683,191	\$7,621,007	\$6,914,295	\$65,790,101

Total ISRP costs except debt service: \$65,115,725

Compare ISRP costs (except debt service) / total ISRP proposed actions: 111%

¹Support of Capital Project equals Assessments + CIP operating budget impacts

²General Fund Paygo - FY19 to FY23 estimates are from approved FY'20 CIP. Future years after FY'20 subject to approvals.

³Estimates provided by Finance Division

⁴Other Septic Denitrification from BRF Grant goes to Canaan Valley Institute. Grants for BRF est at \$130K beginning FY'20 due to diminishing fund

⁵The "Compare ISRP costs" number can not be 100% for the following reasons: the ISRP Cost 4-202.1(j)(1)(i)2 spreadsheet Operating Support of Capital Projects like watershed assessments and O&M and the All Actions 4-202.1(j)(i)1 spreadsheet does not. The CIP costs in the All Actions spreadsheet are grouped by completion year where the ISRP Cost spreadsheet shows costs by year. The CIP budgets are in multiyear phases where the ISRP Cost and Spec Actions tabs roll up all costs into one year.

Check with MDE Geodatabase:

The total current FY 2018 expenditure should be less than the combined total of the "OP_cost" and "CAP_Cost" fields in the fiscal analyses table of the geodatabase.

The total projected FY 2019 expenditure should be less than the combined total of the "OP_budget" and "CAP_budget" fields in the fiscal analyses table of the geodatabase.

*Insert additional rows as necessary.

Article 4-202.1(j)(1)(i)3: Projected annual and 5-year revenues or other funds that will be used to meet the cost for the county or municipality to meet the impervious surface restoration plan requirements under the National Pollutant Discharge Elimination System Phase I Municipal Separate Storm Sewer System Permit.

DESCRIPTION	PAST UP THRU FY 2017	CURRENT YEAR FY 2018	PROJECTED YEAR 1 FY 2019	PROJECTED YEAR 2 FY 2020	PROJECTED YEAR 3 FY 2021	PROJECTED YEAR 4 FY 2022	PROJECTED YEAR 5 FY 2023	TOTAL NEXT 2-YEARS FY 19-20*	TOTAL
Annual Revenue** Appropriated for ISRP	\$16,208,948	\$9,049,164	\$10,153,985	\$8,159,510	\$7,683,191	\$7,621,007	\$6,914,295	\$18,313,495	\$65,790,101
Annual Costs towards ISRP***	\$16,208,948	\$9,049,164	\$10,153,985	\$8,159,510	\$7,683,191	\$7,621,007	\$6,914,295	\$18,313,495	\$65,790,101

Compare revenue appropriated / annual costs: 100%
WPRP 2018 Reporting Criteria 100%

*CIP and Operating budget beyond FY'2020 subject to future year approvals by County Council
 ISRP = Impervious Surface Restoration Program, or 20% Restoration Requirement

* Article 4-202.1(j)(2): Demonstration that county or municipality has sufficient funding in the current fiscal year and subsequent fiscal year budgets to meet its estimated cost for the 2-year period immediately following the filing date of the FAP. Note that the appropriations and expenditures include time period up to FY 2020.
 ** Revenue means "dedicated revenues, funds, or sources of funds (per Article 4-202.1(j)(4)(ii). Note that budget appropriations have only been approved by governing bodies through FY 2018 at the time of FAP reporting.
 *** See table of ISRP Cost.

Article 4-202.1(j)(1)(i)4: Any sources of funds that will be utilized by the county or municipality to meet the requirements of its National Pollutant Discharge Elimination System Phase I Municipal Separate Storm Sewer System Permit.

SOURCE	PAST UP THRU FY 2017	CURRENT YEAR FY 2018	PROJECTED YEAR 1 FY 2019	PROJECTED YEAR 2 FY 2020	PROJECTED YEAR 3 FY 2021	PROJECTED YEAR 4 FY 2022	PROJECTED YEAR 5 FY 2023	TOTAL PERMIT CYCLE
Paygo Sources								
Stormwater Remediation Fees (WPR Fund)	\$ 2,025	\$ 512	\$ 524	\$ 524	\$ 524	\$ 524	\$ 524	\$ 3,584
Miscellaneous Fees (WPR Fund)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
General Fund CIP	\$ 9,104,358	\$ 3,661,951	\$ 3,018,599	\$ 3,181,950	\$ 1,415,000	\$ 180,000	\$ 180,000	\$ 18,966,858
Other Funds 1 General Fund Operating**	\$ 7,852,760	\$ 2,527,545	\$ 3,096,209	\$ 3,189,095	\$ 3,284,768	\$ 3,383,311	\$ 3,484,811	\$ 16,665,609
Other Funds 2								\$ -
Other Funds 3 (please stipulate funding source)	\$ -							\$ -
Subtotal Paygo Sources	\$ 16,959,143	\$ 6,190,008	\$ 6,115,332	\$ 6,371,569	\$ 4,700,292	\$ 3,563,835	\$ 3,665,334	\$ 35,636,051
Debt Service (paygo sources will be used to pay off debt service. Note that previous appropriations for debt service used for ISRP is listed in FY 2017).								
County Transportation Bonds	\$ -							\$ -
General Obligation Bonds	\$ 2,611,805	\$ 4,750,000	\$ 5,092,000	\$ 3,863,449	\$ 4,915,543	\$ 6,087,401	\$ 5,379,702	\$ 16,317,254
Revenue (Utility) Bonds	\$ -							\$ -
State Revolving Loan Fund	\$ -							\$ -
Public-private partnership (debt service)	\$ -							\$ -
Subtotal Debt Service	\$ 2,611,805	\$ 4,750,000	\$ 5,092,000	\$ 3,863,449	\$ 4,915,543	\$ 6,087,401	\$ 5,379,702	\$ 16,317,254
Grants and Partnerships (no payment is expected)								
State funded grants	\$ 3,433,200	\$ 424,700	\$ 1,366,845	\$ 130,000	\$ 130,000	\$ 130,000	\$ 130,000	\$ 5,354,745
Federal funded grants	\$ -							\$ -
Public-private partnership (matched grant)	\$ -							\$ -
Subtotal Grants and Partnerships	\$ 3,433,200	\$ 424,700	\$ 1,366,845	\$ 130,000	\$ 130,000	\$ 130,000	\$ 130,000	\$ 5,354,745
Total Annual Sources of Funds	\$ 23,004,148	\$ 11,364,708	\$ 12,574,177	\$ 10,365,018	\$ 9,745,835	\$ 9,781,236	\$ 9,175,036	\$ 57,308,050
Percent of Funds Directed Toward ISRP								

Compare total permit term paygo ISRP costs / subtotal permit term paygo sources: **61%**
 Compare total permit term ISRP costs / total permit term annual sources of funds: **76%**

* WPR Fund: Watershed Protection and Restoration Fund.

** Note that this includes all operating expenditures for permit, where previous numbers only include portion of operating associated with CIP. Numbers will not add up.

*** % funded: 132%

Check with MDE Geodatabase:

The total sources related to WPR Funds in Current FY 2018 should march the "WPR_Fund" field of the geodatabase.

Article 4-202.1(j)(1)(i)5: Specific actions and expenditures that the county or municipality implemented in the previous fiscal years to meet its impervious surface restoration plan requirements under its National Pollutant Discharge Elimination System Phase I Municipal Separate Storm Sewer System Permit.

Baseline: 1,981

Requirement: 20%

REST BMP ID	REST BMP TYPE	BMP CLASS	NUM BMP	IMP ACRES	BUILT DATE	IMPL COST	% ISRP Complete	IMPL STATUS	GEN COMMENTS
Operational Programs									
	VSS	A	1	66.80	6/30/2015	\$38,081	3.4%	C	1/1/2015-6/30/2015: 167 tons swept/66.8 impervious acre credit
	VSS	A	1	109.22	6/30/2016	\$42,153	5.5%	C	7/1/2015-6/30/2016 273 tons swept/109.22 impervious acre credit
	VSS	A	1	94.13	6/30/2017	\$34,956	4.8%	C	7/1/2016-6/30/2017 235.34 tons swept/94.13 impervious acre credit
	VSS	A	1	56.02	6/30/2018	\$23,591	2.8%	C	7/1/2017-6/30/2018 140.06 tons swept/56.02 impervious acre credit
	VSS	A	1	102.74	6/30/2019	\$41,096	5.2%	C	7/1/2018-6/30/2019 256.85 tons swept/102.74 impervious acre credit
	VSS	A	1	52.50	12/31/2019	\$21,000	2.7%	C	7/1/2019-12/31/2019 131.26 tons swept/52.5 impervious acre credit
Complete To Date*			1	96.28		\$200,877	4.9%		
Capital Projects									
FR17RST900004	FBIO	S	1	1.70	12/1/2013	\$11,440	0.1%	C	
FR17RST800005	FSND	S	1	3.13	11/7/2019	\$160,000	0.2%	C	
FR17RST000043	PWED	S	1	11.83	11/28/2017	\$584,645	0.6%	C	
FR17RST000077	PWED	S	1	14.53	1/9/2019	\$159,016	0.7%	C	
FR17RST000199	PWED	S	1	15.31	1/9/2019	\$159,016	0.8%	C	
FR17RST000060	PWED	S	1	9.05	1/9/2019	\$159,016	0.5%	C	
FR17RST000186	PWED	S	1	10.98	4/30/2019	\$159,016	0.6%	C	
FR17RST000197	PWED	S	1	2.64	4/30/2019	\$159,016	0.1%	C	
FR17RST900005	PWED	S	1	9.72	5/1/2019	\$423,799	0.5%	C	
FR17RST000046	PWED	S	1	4.60	5/20/2019	\$159,016	0.2%	C	
FR17RST000078	PWED	S	1	11.28	6/1/2019	\$159,016	0.6%	C	
FR17RST000039	PWED	S	1	7.10	6/1/2019	\$159,016	0.4%	C	
FR17RST000928	PWED	S	1	15.98	8/22/2019	\$159,016	0.8%	C	
FR17RST000922	PWED	S	1	20.56	8/22/2019	\$159,016	1.0%	C	
FR17RST000924	PWED	S	1	4.68	8/22/2019	\$159,016	0.2%	C	
FR17RST000663	PWED	S	1	6.04	10/25/2019	\$159,016	0.3%	C	
FR17RST000662	PWED	S	1	4.44	10/25/2019	\$159,016	0.2%	C	
FR17RST000200	PWED	S	1	1.95	10/25/2019	\$159,016	0.1%	C	
FR17RST000047	PWED	S	1	4.94	10/25/2019	\$159,016	0.2%	C	
FR17RST000566	PWED	S	1	99.62	11/7/2019	\$2,235,000	5.0%	C	
FR17RST000027	PWED	S	1	12.42	12/9/2019	\$847,110	0.6%	C	
FR17RST000024	PWET	S	1	4.64	4/30/2019	\$429,880	0.2%	C	
FR17RST000002	PWET	S	1	5.60	5/1/2019	\$377,764	0.3%	C	
FR17RST000685	PWET	S	1	19.06	8/1/2019	\$1,375,705	1.0%	C	
FR18RST800003	PWET	S	1	6.69	11/7/2019	\$460,912	0.3%	C	
FR17RST000003	PWET	S	2	18.75	11/25/2019	\$1,739,652	0.9%	C	
FR17RST900002	MMBR	E	2	2.07	10/1/2007	\$249,069	0.1%	C	
FR18RST900011	MMBR	E	1	0.08	5/25/2019	\$148,810	0.0%	C	
FR17RST900003	MMBR	E	1	0.30	5/25/2019	\$148,810	0.0%	C	
FR18RST900014	MMBR	E	1	0.29	5/25/2019	\$148,810	0.0%	C	
FR18RST900013	MRWH	E	1	0.02	5/25/2019	\$148,810	0.0%	C	
FR18RST900012	MRWH	E	1	0.03	5/25/2019	\$148,810	0.0%	C	
FR16ALN000003	STRE	A	1	18.15	5/1/2007	\$406,986	0.9%	C	
FR16ALN000002	STRE	A	1	30.00	11/12/2010	\$427,657	1.5%	C	

FR16ALN000001	STRE	A	1	21.90	12/1/2014	\$633,254	1.1%	C	
FR17ALN000006	STRE	A	1	43.53	12/20/2019	\$30,000	2.2%	C	
FR17ALN000005	STRE	A	1	96.50	12/20/2019	\$4,546,941	4.9%	C	
FR17ALN000007	STRE	A	1	10.50	12/20/2019	\$30,000	0.5%	C	
To Date			40	550.61		\$18,099,105	27.79%		
Other									
n/a	SEPC	A	7	2.73	6/30/2015	\$0	0.1%	C	
n/a	SEPC	A	6	2.16	12/31/2019	\$0	0.1%	C	
n/a	SEPD	A	184	47.84	6/30/2016	\$2,539,200	2.4%	C	
n/a	SEPD	A	26	6.76	6/30/2017	\$414,000	0.3%	C	
n/a	SEPD	A	8	2.08	6/30/2018	\$257,000	0.1%	C	
n/a	SEPD	A	20	5.20	6/30/2019	\$0	0.3%	C	
n/a	SEPD	A	10	2.60	12/31/2019	\$0	0.1%	C	
n/a	SEPP	A	288	8.64	6/30/2015	\$0	0.4%	C	
n/a	SEPP	A	668	20.04	6/30/2016	\$0	1.0%	C	
n/a	SEPP	A	1,051	31.53	6/30/2017	\$0	1.6%	C	
n/a	SEPP	A	1,749	52.47	6/30/2018	\$25,000	2.6%	C	rebate cost
n/a	SEPP	A	2,220	66.60	6/30/2019	\$0	3.4%	C	
n/a	SEPP	A	1,123	33.69	12/31/2019	\$0	1.7%	C	
REDE	OTH	A	7	8.59	12/31/2019	\$0	0.4%	C	Redevelopment restoration credit
TRADING	OTH	A	0	708.10	12/31/2019	\$18,000	35.7%	C	Nutrient trading
FR16APY000026	FPU	A	1	0.58	1/1/2007	\$19,140	0.0%	C	
FR16APY000003	FPU	A	1	0.44	1/1/2007	\$14,520	0.0%	C	
FR16APY000016	FPU	A	1	0.29	1/1/2007	\$9,570	0.0%	C	
FR16APY000002	FPU	A	1	5.79	1/1/2007	\$191,070	0.3%	C	
FR20APY000112	FPU	A	1	1.28	7/2/2008	\$38,400	0.1%	C	
FR20APY000113	FPU	A	1	0.29	7/2/2008	\$8,700	0.0%	C	
FR16APY000005	FPU	A	1	0.90	1/1/2009	\$29,700	0.0%	C	
FR18APY000067	FPU	A	1	0.15	1/1/2009	\$4,500	0.0%	C	
FR16APY000010	FPU	A	1	0.46	1/1/2009	\$15,180	0.0%	C	
FR18APY000068	FPU	A	1	0.24	1/1/2009	\$7,200	0.0%	C	
FR16APY000017	FPU	A	1	0.79	1/1/2009	\$26,070	0.0%	C	
FR16APY000013	FPU	A	1	0.41	1/1/2010	\$13,530	0.0%	C	
FR16APY000007	FPU	A	1	0.51	1/1/2010	\$27,000	0.0%	C	
FR16APY000001	FPU	A	1	1.83	1/1/2011	\$60,390	0.1%	C	
FR16APY000028	FPU	A	1	3.29	1/1/2011	\$75,240	0.2%	C	
FR16APY000029	FPU	A	1	1.41	1/1/2011	\$75,240	0.1%	C	
FR16APY000004	FPU	A	1	3.47	1/1/2011	\$104,100	0.2%	C	
FR18APY000066	FPU	A	1	0.17	1/1/2011	\$5,100	0.0%	C	
FR16APY000018	FPU	A	1	0.13	1/1/2011	\$4,290	0.0%	C	
FR16APY000012	FPU	A	1	1.22	1/1/2012	\$40,260	0.1%	C	
FR16APY000006	FPU	A	1	0.28	1/1/2012	\$26,070	0.0%	C	
FR16APY000027	FPU	A	1	0.32	1/1/2013	\$10,560	0.0%	C	
FR16APY000014	FPU	A	1	1.09	1/1/2013	\$35,970	0.1%	C	
FR16APY000011	FPU	A	1	1.05	1/1/2013	\$34,650	0.1%	C	
FR16APY000023	FPU	A	1	0.79	1/1/2013	\$26,070	0.0%	C	
FR16APY000025	FPU	A	1	0.19	1/1/2014	\$1,320	0.0%	C	
FR16APY000022	FPU	A	1	1.22	1/1/2014	\$40,260	0.1%	C	
FR17APY000060	FPU	A	1	0.28	12/1/2014	\$18,787	0.0%	C	
FR20APY000110	FPU	A	1	0.03	4/1/2016	\$900	0.0%	C	

FR20APY000108	FPU	A	1	0.02	4/1/2016	\$600	0.0%	C	
FR19APY000106	FPU	A	1	1.52	4/1/2016	\$45,600	0.1%	C	
FR20APY000109	FPU	A	1	0.08	4/1/2016	\$2,400	0.0%	C	
FR20APY000107	FPU	A	1	0.06	4/1/2016	\$1,800	0.0%	C	
FR20APY000111	FPU	A	1	0.02	4/1/2016	\$600	0.0%	C	
FR19ALN000104	OUT	A	1	0.17	4/1/2007	\$4,188	0.0%	C	
FR20ALN000225	OUT	A	1	0.11	4/5/2010	\$2,750	0.0%	C	
FR20ALN000224	OUT	A	1	0.08	4/5/2010	\$1,925	0.0%	C	
FR20ALN000234	OUT	A	1	0.18	2/1/2012	\$4,500	0.0%	C	
FR20ALN000255	OUT	A	1	0.10	2/1/2012	\$2,500	0.0%	C	
FR20ALN000240	OUT	A	1	0.13	2/7/2012	\$3,225	0.0%	C	
FR20ALN000232	OUT	A	1	0.16	4/9/2012	\$4,000	0.0%	C	
FR20ALN000280	OUT	A	1	0.55	4/9/2012	\$13,825	0.0%	C	
FR20ALN000231	OUT	A	1	0.22	5/2/2012	\$5,500	0.0%	C	
FR20ALN000271	OUT	A	1	0.10	6/1/2012	\$2,575	0.0%	C	
FR20ALN000203	OUT	A	1	0.13	10/24/2012	\$3,125	0.0%	C	
FR20ALN000233	OUT	A	1	0.71	11/22/2012	\$17,800	0.0%	C	
FR20ALN000257	OUT	A	1	0.17	11/30/2012	\$4,200	0.0%	C	
FR20ALN000222	OUT	A	1	0.23	4/2/2013	\$5,700	0.0%	C	
FR19ALN000080	OUT	A	1	0.20	4/8/2013	\$5,000	0.0%	C	
FR20ALN000210	OUT	A	1	0.08	4/18/2013	\$1,900	0.0%	C	
FR20ALN000256	OUT	A	1	0.08	4/23/2013	\$2,063	0.0%	C	
FR19ALN000102	OUT	A	1	0.26	5/21/2013	\$6,500	0.0%	C	
FR19ALN000093	OUT	A	1	0.18	6/3/2013	\$4,375	0.0%	C	
FR20ALN000229	OUT	A	1	0.14	10/2/2013	\$3,400	0.0%	C	
FR20ALN000207	OUT	A	1	0.29	3/16/2014	\$7,200	0.0%	C	
FR20ALN000281	OUT	A	1	0.07	3/16/2014	\$1,675	0.0%	C	
FR20ALN000215	OUT	A	1	0.50	3/23/2014	\$12,525	0.0%	C	
FR20ALN000235	OUT	A	1	0.17	8/22/2014	\$4,125	0.0%	C	
FR19ALN000100	OUT	A	1	0.34	9/21/2014	\$8,500	0.0%	C	
FR19ALN000074	OUT	A	1	0.21	10/22/2014	\$5,250	0.0%	C	
FR20ALN000269	OUT	A	1	0.26	3/19/2015	\$6,600	0.0%	C	
FR20ALN000218	OUT	A	1	0.16	3/30/2015	\$4,000	0.0%	C	
FR20ALN000242	OUT	A	1	0.08	5/12/2015	\$2,000	0.0%	C	
FR19ALN000099	OUT	A	1	0.44	7/1/2015	\$11,000	0.0%	C	
FR20ALN000211	OUT	A	1	0.24	7/15/2015	\$5,875	0.0%	C	
FR20ALN000254	OUT	A	1	0.08	7/31/2015	\$2,075	0.0%	C	
FR20ALN000200	OUT	A	1	0.18	8/6/2015	\$4,500	0.0%	C	
FR20ALN000272	OUT	A	1	0.21	4/11/2016	\$5,175	0.0%	C	
FR19ALN000091	OUT	A	1	0.30	4/21/2016	\$7,500	0.0%	C	
FR19ALN000084	OUT	A	1	0.08	6/5/2016	\$2,000	0.0%	C	
FR20ALN000205	OUT	A	1	0.16	8/1/2016	\$4,000	0.0%	C	
FR20ALN000223	OUT	A	1	0.17	3/13/2017	\$4,150	0.0%	C	
FR20ALN000230	OUT	A	1	0.13	4/2/2017	\$3,125	0.0%	C	
FR19ALN000076	OUT	A	1	0.10	4/24/2017	\$2,375	0.0%	C	
FR20ALN000258	OUT	A	1	0.13	5/26/2017	\$3,125	0.0%	C	
FR20ALN000209	OUT	A	1	0.22	5/26/2017	\$5,425	0.0%	C	
FR19ALN000098	OUT	A	1	0.13	6/1/2017	\$3,250	0.0%	C	
FR19ALN000078	OUT	A	1	0.18	6/8/2017	\$4,563	0.0%	C	
FR19ALN000073	OUT	A	1	0.09	6/19/2017	\$2,188	0.0%	C	

FR19ALN000101	OUT	A	1	0.09	7/19/2017	\$2,313	0.0%	C	
FR19ALN000082	OUT	A	1	0.07	7/20/2017	\$1,813	0.0%	C	
FR20ALN000198	OUT	A	1	0.10	7/31/2017	\$2,375	0.0%	C	
FR19ALN000106	OUT	A	1	0.11	8/1/2017	\$2,625	0.0%	C	
FR20ALN000236	OUT	A	1	0.11	8/1/2017	\$2,625	0.0%	C	
FR19ALN000081	OUT	A	1	0.13	8/6/2017	\$3,250	0.0%	C	
FR19ALN000072	OUT	A	1	0.13	8/16/2017	\$3,125	0.0%	C	
FR19ALN000088	OUT	A	1	0.09	8/16/2017	\$2,250	0.0%	C	
FR19ALN000086	OUT	A	1	0.11	8/21/2017	\$2,625	0.0%	C	
FR20ALN000219	OUT	A	1	0.47	12/17/2017	\$11,800	0.0%	C	
FR20ALN000208	OUT	A	1	1.01	12/20/2017	\$25,250	0.1%	C	
FR20ALN000202	OUT	A	1	0.08	12/28/2017	\$2,000	0.0%	C	
FR20ALN000217	OUT	A	1	0.12	12/29/2017	\$3,000	0.0%	C	
FR20ALN000226	OUT	A	1	0.21	1/22/2018	\$5,300	0.0%	C	
FR20ALN000227	OUT	A	1	0.09	1/22/2018	\$2,150	0.0%	C	
FR19ALN000071	OUT	A	1	0.12	3/1/2018	\$3,000	0.0%	C	
FR19ALN000103	OUT	A	1	0.06	3/1/2018	\$1,500	0.0%	C	
FR20ALN000245	OUT	A	1	0.36	3/15/2018	\$8,875	0.0%	C	
FR20ALN000249	OUT	A	1	0.17	3/15/2018	\$4,125	0.0%	C	
FR20ALN000246	OUT	A	1	0.19	3/15/2018	\$4,800	0.0%	C	
FR20ALN000251	OUT	A	1	0.17	3/15/2018	\$4,250	0.0%	C	
FR20ALN000248	OUT	A	1	0.10	3/15/2018	\$2,500	0.0%	C	
FR20ALN000250	OUT	A	1	0.17	3/15/2018	\$4,250	0.0%	C	
FR20ALN000252	OUT	A	1	0.14	3/15/2018	\$3,425	0.0%	C	
FR20ALN000247	OUT	A	1	0.28	3/15/2018	\$6,925	0.0%	C	
FR20ALN000259	OUT	A	1	0.23	3/15/2018	\$5,750	0.0%	C	
FR20ALN000253	OUT	A	1	0.26	3/15/2018	\$6,500	0.0%	C	
FR20ALN000228	OUT	A	1	0.09	4/9/2018	\$2,250	0.0%	C	
FR20ALN000204	OUT	A	1	0.22	4/23/2018	\$5,375	0.0%	C	
FR19ALN000097	OUT	A	1	0.45	6/14/2018	\$11,250	0.0%	C	
FR20ALN000267	OUT	A	1	0.14	4/9/2019	\$3,600	0.0%	C	
FR20ALN000278	OUT	A	1	0.48	5/3/2019	\$12,000	0.0%	C	
FR20ALN000268	OUT	A	1	0.29	5/24/2019	\$7,175	0.0%	C	
FR20ALN000276	OUT	A	1	0.16	5/29/2019	\$3,875	0.0%	C	
FR20ALN000277	OUT	A	1	0.66	5/29/2019	\$16,500	0.0%	C	
FR19ALN000089	OUT	A	1	0.14	5/31/2019	\$3,458	0.0%	C	
FR19ALN000090	OUT	A	1	0.05	5/31/2019	\$1,125	0.0%	C	
FR19ALN000077	OUT	A	1	0.08	5/31/2019	\$1,938	0.0%	C	
FR19ALN000094	OUT	A	1	0.10	5/31/2019	\$2,438	0.0%	C	
FR20ALN000199	OUT	A	1	0.11	5/31/2019	\$2,688	0.0%	C	
FR20ALN000201	OUT	A	1	0.47	7/10/2019	\$11,750	0.0%	C	
FR20ALN000273	OUT	A	1	2.00	8/30/2019	\$50,000	0.1%	C	
FR20ALN000264	OUT	A	1	0.16	8/30/2019	\$4,000	0.0%	C	
FR20ALN000265	OUT	A	1	0.09	9/13/2019	\$2,300	0.0%	C	
FR20ALN000261	OUT	A	1	0.09	9/13/2019	\$2,175	0.0%	C	
FR20ALN000262	OUT	A	1	0.12	9/19/2019	\$3,000	0.0%	C	
FR20ALN000263	OUT	A	1	0.13	9/30/2019	\$3,250	0.0%	C	
FR20ALN000206	OUT	A	1	0.15	10/11/2019	\$3,625	0.0%	C	
FR20ALN000212	OUT	A	1	0.27	10/22/2019	\$6,775	0.0%	C	
FR20ALN000214	OUT	A	1	0.13	10/22/2019	\$3,275	0.0%	C	

FR20ALN000270	OUT	A	1	0.24	10/22/2019	\$5,925	0.0%	C	
FR20ALN000216	OUT	A	1	0.15	10/22/2019	\$3,725	0.0%	C	
FR20ALN000213	OUT	A	1	0.59	10/22/2019	\$14,825	0.0%	C	
FR20ALN000221	OUT	A	1	0.07	10/24/2019	\$1,750	0.0%	C	
FR20ALN000275	OUT	A	1	0.15	10/25/2019	\$3,750	0.0%	C	
FR20ALN000220	OUT	A	1	0.17	10/29/2019	\$4,250	0.0%	C	
FR20ALN000237	OUT	A	1	0.10	11/5/2019	\$2,583	0.0%	C	
FR20ALN000279	OUT	A	1	0.08	11/5/2019	\$2,000	0.0%	C	
FR20ALN000260	OUT	A	1	0.22	11/7/2019	\$5,500	0.0%	C	
FR20ALN000238	OUT	A	1	0.25	11/8/2019	\$6,250	0.0%	C	
FR20ALN000274	OUT	A	1	0.33	11/8/2019	\$8,300	0.0%	C	
FR20ALN000241	OUT	A	1	0.26	11/8/2019	\$6,500	0.0%	C	
FR20ALN000239	OUT	A	1	0.18	11/8/2019	\$4,500	0.0%	C	
FR20ALN000244	OUT	A	1	0.20	11/13/2019	\$4,900	0.0%	C	
FR20ALN000243	OUT	A	1	0.16	11/13/2019	\$4,075	0.0%	C	
FR20ALN000266	OUT	A	1	0.16	1/23/2020	\$3,900	0.0%	C	
FR20ALN000169	OUT	A	1	0.16	3/12/2008	\$0	0.0%	C	
FR20ALN000140	OUT	A	1	0.83	3/3/2011	\$0	0.0%	C	
FR20ALN000188	OUT	A	1	0.34	3/4/2011	\$7,650	0.0%	C	
FR20ALN000108	OUT	A	1	0.47	3/4/2011	\$10,575	0.0%	C	
FR20ALN000134	OUT	A	1	0.38	3/13/2011	\$8,438	0.0%	C	
FR20ALN000115	OUT	A	1	0.15	3/14/2011	\$3,375	0.0%	C	
FR20ALN000116	OUT	A	1	0.24	3/14/2011	\$5,288	0.0%	C	
FR20ALN000131	OUT	A	1	0.31	4/14/2011	\$6,975	0.0%	C	
FR20ALN000129	STRE	A	1	5.25	4/14/2011	\$118,125	0.3%	C	
FR20ALN000122	OUT	A	1	0.89	1/30/2012	\$20,025	0.0%	C	
FR19ALN000053	STRE	A	1	4.89	2/3/2012	\$110,025	0.2%	C	
FR20ALN000191	OUT	A	1	0.22	3/5/2012	\$4,950	0.0%	C	
FR20ALN000197	OUT	A	1	0.23	3/5/2012	\$5,175	0.0%	C	
FR19ALN000038	OUT	A	1	0.27	3/5/2012	\$5,963	0.0%	C	
FR19ALN000067	OUT	A	1	0.60	3/5/2012	\$13,500	0.0%	C	
FR19ALN000069	OUT	A	1	0.72	3/15/2012	\$16,200	0.0%	C	
FR19ALN000028	OUT	A	1	0.12	4/4/2012	\$2,700	0.0%	C	
FR19ALN000031	OUT	A	1	0.12	4/4/2012	\$2,700	0.0%	C	
FR19ALN000035	OUT	A	1	0.18	4/4/2012	\$4,050	0.0%	C	
FR20ALN000180	OUT	A	1	0.21	4/4/2012	\$4,725	0.0%	C	
FR20ALN000179	OUT	A	1	0.22	4/4/2012	\$4,950	0.0%	C	
FR20ALN000194	OUT	A	1	0.23	4/4/2012	\$5,175	0.0%	C	
FR19ALN000050	OUT	A	1	0.45	4/4/2012	\$10,125	0.0%	C	
FR20ALN000178	OUT	A	1	0.05	4/9/2012	\$1,125	0.0%	C	
FR20ALN000177	OUT	A	1	0.30	4/9/2012	\$6,750	0.0%	C	
FR19ALN000033	OUT	A	1	0.10	4/26/2012	\$2,250	0.0%	C	
FR19ALN000036	OUT	A	1	0.20	4/26/2012	\$4,500	0.0%	C	
FR20ALN000183	OUT	A	1	0.31	4/26/2012	\$6,975	0.0%	C	
FR20ALN000176	OUT	A	1	0.20	6/11/2012	\$4,590	0.0%	C	
FR19ALN000066	STRE	A	1	4.65	10/2/2012	\$104,625	0.2%	C	
FR20ALN000174	OUT	A	1	0.12	12/10/2012	\$2,700	0.0%	C	
FR20ALN000175	OUT	A	1	0.32	12/10/2012	\$7,088	0.0%	C	
FR19ALN000040	OUT	A	1	0.14	1/9/2013	\$3,150	0.0%	C	
FR20ALN000173	STRE	A	1	4.20	1/9/2013	\$94,500	0.2%	C	

FR19ALN000046	OUT	A	1	0.07	2/21/2013	\$1,575	0.0%	C	
FR20ALN000172	OUT	A	1	0.11	3/15/2013	\$2,475	0.0%	C	
FR19ALN000059	OUT	A	1	0.63	3/23/2013	\$14,175	0.0%	C	
FR20ALN000189	OUT	A	1	0.24	4/2/2013	\$5,400	0.0%	C	
FR20ALN000171	OUT	A	1	0.24	4/2/2013	\$5,400	0.0%	C	
FR19ALN000049	OUT	A	1	0.12	4/8/2013	\$2,700	0.0%	C	
FR19ALN000034	OUT	A	1	0.16	4/8/2013	\$3,600	0.0%	C	
FR20ALN000170	OUT	A	1	0.13	4/24/2013	\$2,948	0.0%	C	
FR19ALN000045	OUT	A	1	0.05	4/25/2013	\$1,013	0.0%	C	
FR20ALN000190	OUT	A	1	0.18	4/25/2013	\$4,050	0.0%	C	
FR19ALN000055	OUT	A	1	0.16	5/16/2013	\$3,600	0.0%	C	
FR19ALN000070	OUT	A	1	0.20	5/23/2013	\$4,500	0.0%	C	
FR18ALN000009	STRE	A	1	27.75	9/30/2013	\$624,375	1.4%	C	
FR20ALN000158	STRE	A	1	3.84	10/8/2013	\$86,400	0.2%	C	
FR20ALN000141	OUT	A	1	0.54	3/6/2014	\$12,150	0.0%	C	
FR19ALN000048	OUT	A	1	0.28	5/13/2014	\$6,300	0.0%	C	
FR20ALN000142	OUT	A	1	0.47	6/4/2014	\$10,643	0.0%	C	
FR20ALN000127	OUT	A	1	0.71	6/4/2014	\$15,975	0.0%	C	
FR19ALN000019	STRE	A	1	4.38	6/16/2014	\$98,550	0.2%	C	
FR20ALN000196	OUT	A	1	0.19	9/21/2014	\$4,275	0.0%	C	
FR19ALN000058	OUT	A	1	0.30	9/21/2014	\$6,638	0.0%	C	
FR19ALN000041	OUT	A	1	0.94	9/21/2014	\$21,150	0.0%	C	
FR20ALN000137	STRE	A	1	4.32	9/21/2014	\$97,200	0.2%	C	
FR19ALN000026	STRE	A	1	4.05	10/22/2014	\$91,125	0.2%	C	
FR19ALN000062	STRE	A	1	4.44	12/11/2014	\$99,900	0.2%	C	
FR19ALN000068	OUT	A	1	0.13	1/12/2015	\$2,925	0.0%	C	
FR19ALN000054	OUT	A	1	0.11	5/22/2015	\$2,430	0.0%	C	
FR20ALN000195	OUT	A	1	0.17	5/22/2015	\$3,713	0.0%	C	
FR19ALN000064	OUT	A	1	0.48	5/22/2015	\$10,800	0.0%	C	
FR19ALN000029	OUT	A	1	0.09	6/17/2015	\$2,025	0.0%	C	
FR20ALN000192	OUT	A	1	0.04	7/1/2015	\$900	0.0%	C	
FR20ALN000123	OUT	A	1	0.16	7/1/2015	\$3,600	0.0%	C	
FR19ALN000060	OUT	A	1	0.40	7/1/2015	\$9,000	0.0%	C	
FR20ALN000184	OUT	A	1	0.46	7/15/2015	\$10,406	0.0%	C	
FR20ALN000151	OUT	A	1	0.48	8/6/2015	\$10,800	0.0%	C	
FR18ALN000010	STRE	A	1	45.00	9/30/2015	\$1,012,500	2.3%	C	
FR19ALN000025	STRE	A	1	43.50	12/31/2015	\$978,750	2.2%	C	
FR19ALN000061	OUT	A	1	0.51	1/8/2016	\$11,475	0.0%	C	
FR19ALN000037	OUT	A	1	0.57	4/26/2016	\$12,825	0.0%	C	
FR19ALN000056	OUT	A	1	0.09	5/31/2016	\$2,025	0.0%	C	
FR20ALN000153	OUT	A	1	0.12	7/8/2016	\$2,588	0.0%	C	
FR20ALN000152	OUT	A	1	0.13	7/8/2016	\$2,813	0.0%	C	
FR20ALN000130	STRE	A	1	4.95	7/8/2016	\$111,375	0.2%	C	
FR20ALN000109	STRE	A	1	4.23	8/1/2016	\$95,175	0.2%	C	
FR20ALN000159	OUT	A	1	0.54	11/4/2016	\$12,150	0.0%	C	
FR19ALN000051	OUT	A	1	0.19	3/10/2017	\$4,275	0.0%	C	
FR20ALN000149	OUT	A	1	0.33	3/13/2017	\$7,403	0.0%	C	
FR20ALN000138	OUT	A	1	0.89	3/13/2017	\$19,913	0.0%	C	
FR20ALN000133	OUT	A	1	0.97	3/13/2017	\$21,780	0.0%	C	
FR20ALN000120	STRE	A	1	3.99	3/13/2017	\$89,775	0.2%	C	

FR20ALN000117	STRE	A	1	5.91	3/13/2017	\$132,975	0.3%	C	
FR20ALN000118	STRE	A	1	17.75	3/13/2017	\$399,263	0.9%	C	
FR20ALN000182	OUT	A	1	0.65	3/21/2017	\$14,625	0.0%	C	
FR20ALN000143	STRE	A	1	4.65	4/2/2017	\$104,625	0.2%	C	
FR20ALN000126	OUT	A	1	0.94	4/11/2017	\$21,150	0.0%	C	
FR20ALN000121	STRE	A	1	4.67	4/12/2017	\$104,963	0.2%	C	
FR20ALN000162	OUT	A	1	0.85	4/18/2017	\$19,125	0.0%	C	
FR20ALN000161	OUT	A	1	0.85	4/18/2017	\$19,125	0.0%	C	
FR20ALN000193	OUT	A	1	0.08	6/1/2017	\$1,800	0.0%	C	
FR19ALN000044	OUT	A	1	0.15	6/1/2017	\$3,375	0.0%	C	
FR19ALN000043	OUT	A	1	0.69	6/1/2017	\$15,525	0.0%	C	
FR19ALN000042	OUT	A	1	0.81	6/1/2017	\$18,225	0.0%	C	
FR19ALN000052	STRE	A	1	4.65	6/1/2017	\$104,625	0.2%	C	
FR18ALN000015	STRE	A	1	4.20	6/12/2017	\$94,500	0.2%	C	
FR18ALN000014	OUT	A	1	0.61	6/13/2017	\$13,725	0.0%	C	
FR20ALN000154	OUT	A	1	0.21	6/20/2017	\$4,725	0.0%	C	
FR20ALN000155	OUT	A	1	0.22	6/20/2017	\$4,950	0.0%	C	
FR18ALN000017	STRE	A	1	6.45	6/20/2017	\$145,125	0.3%	C	
FR18ALN000016	OUT	A	1	0.42	6/28/2017	\$9,450	0.0%	C	
FR18ALN000013	OUT	A	1	0.33	8/5/2017	\$7,425	0.0%	C	
FR18ALN000011	OUT	A	1	0.43	8/24/2017	\$9,675	0.0%	C	
FR18ALN000012	OUT	A	1	0.66	8/28/2017	\$14,850	0.0%	C	
FR20ALN000157	OUT	A	1	0.10	9/14/2017	\$2,250	0.0%	C	
FR20ALN000156	OUT	A	1	0.15	9/14/2017	\$3,375	0.0%	C	
FR20ALN000164	OUT	A	1	0.10	9/29/2017	\$2,160	0.0%	C	
FR19ALN000032	OUT	A	1	0.28	10/26/2017	\$6,188	0.0%	C	
FR20ALN000144	OUT	A	1	0.26	12/17/2017	\$5,850	0.0%	C	
FR20ALN000150	OUT	A	1	0.28	12/17/2017	\$6,255	0.0%	C	
FR20ALN000135	OUT	A	1	0.09	12/26/2017	\$2,070	0.0%	C	
FR20ALN000107	STRE	A	1	4.35	12/26/2017	\$97,875	0.2%	C	
FR20ALN000163	OUT	A	1	0.12	1/19/2018	\$2,588	0.0%	C	
FR19ALN000065	OUT	A	1	0.49	2/5/2018	\$11,025	0.0%	C	
FR20ALN000146	OUT	A	1	0.15	3/1/2018	\$3,375	0.0%	C	
FR19ALN000027	OUT	A	1	0.18	3/1/2018	\$4,050	0.0%	C	
FR20ALN000128	OUT	A	1	0.26	3/1/2018	\$5,850	0.0%	C	
FR19ALN000030	OUT	A	1	0.36	3/1/2018	\$8,100	0.0%	C	
FR19ALN000047	STRE	A	1	7.80	3/2/2018	\$175,500	0.4%	C	
FR19ALN000063	OUT	A	1	0.50	3/15/2018	\$11,250	0.0%	C	
FR20ALN000166	OUT	A	1	0.22	4/9/2018	\$4,950	0.0%	C	
FR20ALN000124	OUT	A	1	0.17	4/27/2018	\$3,893	0.0%	C	
FR20ALN000186	OUT	A	1	0.29	4/27/2018	\$6,458	0.0%	C	
FR20ALN000125	OUT	A	1	0.20	5/7/2018	\$4,500	0.0%	C	
FR20ALN000167	OUT	A	1	0.24	7/20/2018	\$5,378	0.0%	C	
FR19ALN000039	OUT	A	1	0.60	10/11/2018	\$13,500	0.0%	C	
FR20ALN000148	OUT	A	1	0.33	3/8/2019	\$7,425	0.0%	C	
FR20ALN000136	OUT	A	1	0.65	3/8/2019	\$14,670	0.0%	C	
FR20ALN000165	OUT	A	1	0.09	6/3/2019	\$2,025	0.0%	C	
FR20ALN000187	OUT	A	1	0.16	7/24/2019	\$3,600	0.0%	C	
FR20ALN000111	OUT	A	1	0.24	7/24/2019	\$5,400	0.0%	C	
FR20ALN000113	OUT	A	1	0.57	7/24/2019	\$12,825	0.0%	C	

FR20ALN000112	OUT	A	1	0.71	7/24/2019	\$15,975	0.0%	C	
FR20ALN000110	STRE	A	1	4.50	7/24/2019	\$101,250	0.2%	C	
FR20ALN000114	OUT	A	1	0.09	8/9/2019	\$2,025	0.0%	C	
FR20ALN000145	OUT	A	1	0.19	8/9/2019	\$4,275	0.0%	C	
FR20ALN000185	OUT	A	1	0.76	10/14/2019	\$17,145	0.0%	C	
FR20ALN000168	OUT	A	1	0.21	10/16/2019	\$4,613	0.0%	C	
FR20ALN000132	OUT	A	1	0.11	10/18/2019	\$2,475	0.0%	C	
FR20ALN000160	OUT	A	1	0.41	10/23/2019	\$9,113	0.0%	C	
FR20ALN000119	STRE	A	1	6.69	10/23/2019	\$150,525	0.3%	C	
FR20ALN000147	OUT	A	1	0.15	11/7/2019	\$3,431	0.0%	C	
FR20ALN000139	OUT	A	1	0.19	11/7/2019	\$4,275	0.0%	C	
FR20ALN000181	OUT	A	1	0.22	11/7/2019	\$4,950	0.0%	C	
Subtotal Other Complete To Date			7658	1334.14		\$11,156,922	67.3%		
Total Complete to Date			7,699	1981.03		\$29,456,904	100.0%		

Check with MDE Geodatabase:

Rest BMP ID, type, class, number of BMPs, impervious acres, built date, implementation cost and implementation status should match the various geodatabase tables for BMPs (AltBMPLine, AltBMPPoint, AltBMPPoly, and RestBMP)-- aggregated by type and status.

Notes:

For street sweeping indicate the annual frequency that the streets are swept and for inlet cleaning indicate the number of inlets cleaned-out.

*IMPL COST is a summation and not an average.

FINANCIAL ASSURANCE PLAN AND WPRP ANNUAL REPORT

Frederick County

NPDES MS4 Permit No. 11-DP-3321, MD0068357

December 30, 2014 to December 29, 2019 (Administratively Extended)

Submittal/Report Date: April 29, 2020

EXECUTIVE SUMMARY

Frederick County Maryland is subject to the terms of the federal Clean Water Act's National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) program. This program requires the County to obtain a permit for stormwater discharges to its MS4. The County is covered under NPDES MS4 Permit No. 11-DP-3321, MD0068357 (Permit) and is classified as a medium jurisdiction by the Maryland Department of the Environment (MDE) due to population. The Permit's effective date was December 30, 2014 and ended December 29, 2019, and is administratively extended. The County was issued its previous permit on March 11, 2002, which was administratively extended by MDE from its initial end date of March 11, 2007 until the new Permit was issued, effective December 30, 2014. The County ended its last Permit cycle in compliance, having provided for the restoration of over 10% (672.5 acres) of the County's untreated urban impervious acres and all of programmatic elements of the Permit. The current permit requires the restoration of 20%, an estimated 1,981.03 acres, to the Maximum Extent Practicable. The County has met 100% of the goal of its Impervious Surface Restoration Plan (ISRP), having spent \$57,308,050 on compliance with the permit requirements. Best Management Practices approved by MDE in its August 2014 *Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated* document were used, as shown in the table below.

Table 1: Impervious Cover Restoration Projects and Trades meeting the 20% ISRP

BMP Type	Total
Stormwater	
Micro-Bioretenion	2.74
Rainwater Harvesting	0.05
Bioretenion	1.70
Wet Extended Detention	267.67

Wet Pond	54.74
Sand Filter	3.13
Stream Restoration	461.63
Outfall Stabilization	63.46
Tree Planting	30.60
Septic Denitrification	64.48
Septic Connections to WWTP	4.89
Septic Pumping	212.97
Vacuum Street Sweeping¹	96.28
Redevelopment Restoration	8.59
Nutrient Trading	708.1
Total	1,981.03

Table 1 shows that the 1,981.03 acres of restoration obligation are met using 1,272.03 acres of restoration and 708.1 acre equivalents of nutrient trading credits from the County's wastewater treatment plant (WWTP) at Ballenger-McKinney. These trades were approved by MDE on 4/23/2020. The MS4 purchased 14,859 pounds of Total Nitrogen and 165,248 pounds of Total Suspended Sediment that are equivalent to 708.1 acres of impervious surface restoration.

Funding has consistently been budgeted by Frederick County to meet the conditions of the Permit within Maximum Extent Practicable (MEP) limits. Due to the ability to conduct trades, the MEP matches permit requirements. The County has met 100% of the goal of its Impervious Surface Restoration Plan (ISRP), having spent \$57,308,050 on compliance with the permit requirements.

Maryland House Bill 987, "Stormwater Management - Watershed Protection and Restoration Program", was passed by the Maryland General Assembly in 2012 and codified into State law. This bill required all counties and municipalities that are subject to a Phase I NPDES MS4 Permit to establish a stormwater remediation fee; develop a Watershed Protection and Restoration Fund; and to submit a biennial report beginning July 1, 2014. Maryland Senate Bill 863, "Watershed Protection and Restoration Programs - Revisions", which was passed in 2015 and codified into State law, amended the Environment Code most notably by (1) removing the requirement to establish a stormwater remediation fee under certain circumstances; (2)

modifying the requirement for each jurisdiction to file a Watershed Protection and Restoration Program Report; and (3) adding the requirement to file a Financial Assurance Plan.

As required by the Annotated Code of Maryland ENV §4-202.1, all medium and large NPDES MS4 permit holders are required to prepare a biennial Financial Assurance Plan (FAP) and Watershed Protection and Restoration Program (WPRP) Annual Report to demonstrate the financial wherewithal for meeting MS4 Permit impervious surface area restoration requirements.

The completion and submission of the FAP is required every two years on the anniversary date of the Permit issuance, with the first submittal due on July 1, 2016 and the subsequent submittal due December 29, 2018; all subsequent submissions are due two years from the December date. This submission is beyond the normal timeline due to the correction in the impervious cover accounting required by MDE and described in this document, but satisfies the December 29, 2018 submission requirement. The plans provide approved MS4 program funding and execution for all Fiscal Years up to 2020, with projections for FY'21, FY'22, and FY'23. The second half of FY'15 and the first half of FY'20 are in the current Permit cycle. MDE has allowed jurisdictions to count restoration activities completed after the end of its previous permit towards the current permit.

The FAP will be issued for a 30-day public review. The County Council, as the "local governing body" will hold a public hearing and vote on approval of the FAP.

Frederick County developed a stormwater remediation fee to be fully compliant with HB987. The Board of County Commissioners (BOCC), on May 30, 2013, approved Ordinance 13-06-634 effective July 1, 2013 to create a one cent fee per eligible property to be charged on tax bills issued July 1. The County submitted its first report to MDE by July 1, 2014. Proceeds from the fee were put into a Watershed Protection and Restoration Fund. The BOCC chose at that time to fund the majority of its compliance program for NPDES MS4 Permit No. 11-DP-3321, MD0068357 through the County General Fund. The Frederick County Council (Frederick County changed to Charter Government on December 1, 2014) has continued to authorize the collection of one cent per eligible property, and is funding the majority of the Permit through General Funds, and to a lesser extent, general government bonds and grants.

All proceeds from the stormwater remediation fee go to the Watershed Protection and Restoration Fund. In fiscal year 2019 this amounted to \$523.79. The County collected \$3,060 total in the WPRP by the end of FY'19. The majority of funding comes from the General Funds and from bonds; the level of expenditure is commensurate to other large and medium MS4s in Maryland.

Funding information comes from past and proposed operating and Capital Improvement Program (CIP) budgets from the Watershed Management Program within OSER and from

numbers provided by County Divisions with stormwater management functions; the “Current” (as identified in the FAP spreadsheets) FY18 budgets from the same sources; projections based on the actual FY19 and FY20 budgets for future operating expenses and the programmed Capital Improvement Project budget from the same sources; and revenue from the stormwater remediation fee tracked by the Finance Division. Where cost numbers for past projects are not available, estimates from Brown and Caldwell are used. Their estimates were submitted as part of the County’s MEP analysis and are based on the King and Hagen study commissioned by MDE for publicly procured stormwater retrofit projects and modified slightly for the firm’s experience with execution of projects in Maryland.

The Permit requires compliance with such tasks as watershed assessments; long-term watershed monitoring; public outreach on mandated topics; activities required by sediment and erosion control delegation for new development; tracking of pesticide, herbicide, and fertilizer use; regulation of the county’s sites that are separately permitted under the NPDES Industrial Discharge program for stormwater; illicit discharge detection and elimination; spill response; implementation plans for regulated pollutant limits (known as Total Maximum Daily loads, or TMDLs) on waterbodies; stormwater as-built plan management; inspection of all public and private stormwater facilities on a triennial basis; maintenance of a complex geodatabase with permit compliance data; and restoration and retrofit implementation. In particular, the restoration and retrofit requirement in the Permit includes the requirement to treat 20% of the County’s untreated urban impervious surface within the five year term.

MDE requested that the County create a program for homeowner-scale stormwater retrofits, not realizing that this program was already in place. The Neighborhood Green and Expanded Neighborhood Green programs have helped over 167 landowners to control stormwater runoff and reduce pollutants from entering our local waterways by installing best management practices that include Rain Barrels, Rain Gardens, Conservation Landscaping, Tree Planting, Nutrient Management, and Downspout Disconnection. Though MDE has suggested we track these retrofits for credit, the amount of credit from these practices is negligible. The credits are difficult to inspect and verify over time; thus, we count these projects towards outreach.

MDE noted in its August 23, 2019 memo, which tentatively approved the County’s Financial Assurance Plan, that approval of the impervious area analysis was still pending. The County updated the impervious cover restoration plan as well as two technical memos for rooftop and non-rooftop disconnect studies, and submitted them to MDE on September 30, 2019. Frederick County staff met with MDE on October 24th where it was decided by MDE that the impervious cover analysis was pending approval of the non-rooftop disconnect study. A field visit was planned to review the study findings with MDE; however, McCormick Taylor in reviewing for the field meeting discovered a significant error in its work for the rooftop and non-rooftop studies.

They had used the wrong projection file that caused the county’s restoration obligation to be underestimated by 711 acres. Again, the impervious cover assessment was conducted using the correct boundary and by the correct protocol but with an error in the projection which caused the discrepancy. The updated impervious cover restoration plan and all related technical memos were resubmitted on February 14, 2020 to MDE. Pat Depkin of MDE has stated that MDE has approved the ISRP. Written documentation is in MDE’s forthcoming review of the December 29, 2019 Annual Report. A draft of this was provided to Frederick County by Mr. Depkin.

Below, Table 2 shows the total impervious acres in the county MS4 with subtractions for treated areas that have been approved by MDE, resulting in 9,903 untreated impervious acres. 20% of this number is 1,981 acres.

Table 2: Updated Impervious Cover Baseline

<u>Frederick County Impervious Accounting</u>	
Total Impervious (acres) within MS4 Permit Area	13,396
– Treated Impervious (acres)	(-678)
– Rooftop Disconnect (acres)	(-403)
– Non Rooftop Disconnect (acres)	(-2,259)
– Sheetflow to Conservation Area (acres)	(-38)
– Existing Grass Swales (acres)	(-51)
– Treated Impervious draining to MD SHA’s BMPs from Frederick County MS4 area	(-64)
Remaining Untreated Impervious (acres) as Baseline	9,903
– Multiply by 20% to determine Frederick County Impervious Restoration Goal (acres)	x (0.20)
Total Impervious (acres) within MS4 Permit Area to be restored¹	1,981

Frederick County has made significant strides to improve water quality in the Chesapeake Bay and local County streams. We demonstrate through the NPDES MS4 permitting program and our financial commitment the significant role local governments play in the restoration of our waters.